The COMPLEAT Planter & Cyderist:

Or, Choice

COLLECTIONS AND OBSERVATIONS

For the Propagating all manner of

FRUIT-TREES,

And the most Approved Ways and Methods yet known for the Making and Ordering of

CYDER,

And other *ENGLISH-WINES.*

By a LOVER of PLANTING.

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THE

Preface.

Courteous Reader,

I Shall not trouble my ſelf with the Cuſtomary, and almoſt eſſential Concomitant of writing, by courting you into good Humour with a blandiſhing *Epiſtle*; only inform you, that having ſometimes very much delighted in Planting, and for the improvment of my knowledge therein, Read over moſt Books, as well Antient as Modern that treat-

ed thereof; I found in many of them very wild Notions and idle Chimera's, yet the late Authors, (as Mr *Evelin*, *Austen*, *Ray*, *Cotton*, *Meagar*, *Worlidge*, with many others, and above all, the ingenious Mr *Langford*) Treat very excellently of most parts thereof, yet no one to touch every point, but in many things very defective: wherefore I thought some idle hours not ill spent, if out of them all, according to the best of my judgment, I cull'd such Rules and Observations, as with the addition of my one Experience, a more compendious and compleat Work thereof might be Compiled, which would save the Planter much Expence and Trouble in buying, and reading so many as have thereon writ; the numerousness of Authors rather consuming, than advancing any Stock of knowlidge, by leading their *Readers* into so many Various and uncouth Paths, as at length to lose himself in a Meander of confusion and contrarieties; for that, and no other

ther end therefore is this Collection made; and herein I have imitated the Painter, that designing the Picture of *Venus*, summon'd together all the fair Ladies of the Town, and from one he Selected an Eye, another a Nose, and from a third a Lip, *&c.* so that whatsoever he found commendable in any one, he reduced the same into his Draught, and thereby made a perfect Picture of a most exquisite Beauty: In like manner have chosen out (but whether with the same success lies in the determination of the Judicious) whatsoever I found either useful, necessary, or conducible to this Art, for the Planter to know, and thereby separated the best Metal from all dross, and impurities, and out of every one extracted the Quintessence, by reducing the same into the method you here see; which to those whose Genius leads them to the Propagation, ordering, and managery of Fruit-trees, making of Cyder, and English Wines, may be acceptable, and of somthing more

than ordinary eſteem; by reaſon they now need not tumble over and rake in a multitude of Authors, for that which at one entire View they may clearly ſee, and all that is any ways requiſite to be underſtood concerning that Subject, as alſo all Impertinencies, Legendary ſtories, unpracticable, and improbable Projects thereabouts utterly rejected, which are the grand impediments and diſcouragments of this beneficial Art.

How not only eaſy and delightful, but profitable the Planting of Fruit-trees is, will be needleſs to make a diſcourſe on, ſince not only Thouſands of People, but whole Counties can infallibly evidence by their daily experience the many and vaſt advantages thereof. Only our Saturnine Northern People are not very inclinable thereunto, out of a certain conceited and inbred humour, of not doing any thing their Anceſtours have not cared for, which makes them tenaciouſly adhere to

their

their old and accuſtomed ways of Culture, and neglect, and almoſt ſcoffingly deride any improvement their fore-Fathers did not underſtand, or uſe; this humour too, is ſomething augmented, upon a Whim they have, that their Soil is ſo Steril and improlifical by the coldneſs of their ſituation, that it would be labour loſt to go about it; all which are idle fancies, ſince experience ſufficiently teſtifies, that moſt ſorts of Apples, Pears, Cherries, and Plums with due Cultivation proſper very well in each part of our Climate, unleſs it be amongſt the meer Mountaineers; ſo that would our Countrymen but exile ſloth and careleſſneſs, they may have as flouriſhing Orchards as others; the Soil and Air being propitious enough for that purpoſe. I have known ſome ſo negligent, that altho they have had Fruit-trees given them, which being ſet made a very hopeful progreſs in their growth and bearing, had not their wretched Lazineſs permitted them to be ſpoil'd by Cat-

tle for want of a good Fence and heedful looking to. Another pretended obſtruction is the Thieviſhneſs of the meaneſt ſort of People, who when any one Plants, frequently break into their Orchards, and not only rob them of their Fruit; but often injure their Trees; which objection may be as much appropriated to other Countries as ours; moſt raſcally People having a propenſity to Pilfering, yet are not other places thereby diſcouraged to the non-uſer or neglect of this gainful Art; ſince the inconvenience may be eaſily conquer'd by a little care, ſome ſeverity, and time; for if many would Plant, there would be a leſs ſcarcity of Fruit, ſo that Roguiſh People would leſs value them, and not ſo eagerly tranſgreſs thoſe excellent Laws of the 43 *Eliz.* cap. 7, and 15 *Car.* 2 cap. 2. made for the puniſhmnet of ſuch People.

Upon

Upon a due consideration of the whole matter, let every one that Plants but an Orchard of one hundred Trees, of good bearing kinds, and long keeping Apples, regularly Planted, manur'd and disposed according to the directions herein, but speak the truth, and they'l ingenuously confess, that after eight or nine years growth of the Trees, prodigious profits have thereby accrued to their Oeconomy.

And that this Soil or situation is not so ill influenced by any Aspect of the Heavens, as is Vulgarly, and very erroniously believed.

It only remains that I deprecate the *Reader* to censure this Book according to 'its merits, and not the Capricio's of his own Brain, and in so doing, he'l shew all the favour is expected by the Compiler, who on that score bids him

Farewel.

May 24. 1683. Chap.

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THE

THE Compleat PLANTER AND CYDERIST.

CHAP. I.

Of the Seminary and Nursery.

§. 1. AGainst the Beginning of *October* carefully prepare Ground by Digging, Levelling, and Cleansing it from Grass, Stones, Weeds, and Roots, making the Mold very Fine: choose not a wet or very stiff Clay Land, nor over-rich with Dung, but such as being it self good, you may make better only with a little mixture of very rotten Dung: Let it be fenced from the cold as well as you can, so that it be free from shade and droppings of Trees. *Of preparing the ground for the Seminary.*

§. 2. When you set Stones, (which if they be Stones of Fruit soon ripe, you must *How to set Stones for Stocks.*

keep in Sand till *October*) do it by a Line, pricking holes about six Inches distance one from another, and then put in the Stones about two Inches deep, with the sharp end uppermost: When one Row is finished, remove your Line a Foot farther, and set another Row in the same manner; but let your third Row be about a Yard distant from the second, that you may have liberty to go between every two Rows to Weed, *&c.* And set your Plum-stones and Cherry-stones each apart by themselves, and so proceed to set as many as you have a mind. Possibly some of these Stones may not come up till the second *Spring* after setting, and may not frustrate your desire, if you then expect them. Some keep their Stones in Sand or Earth, in Tubs (well cover'd for fear of Mice) placed in a dry Cellar, in a House, and then in *February* they Sow them (having prepared their ground) in Trenches, as Pease are Sown. The Stones of Apricocks and Peaches are apt to spring too forward, if set too soon, and be nipt by Frosts. In like manner you may set Stones of Sloes, Haws, *&c.*

How to set Nuts, &c. §. 3. After the same manner you are to set all kind of Nuts, Acorns, Ash-keys, or the Seeds or Kernels of any other kinds of Shrubs or Trees; but because it's necessary that your young Wallnut-Trees and Chesnut-trees should grow longer in your Seed-plot

plot than Stone-Fruit, before they will be fit to be removed to the place they are to ſpend their Lives in: you muſt ſet them at much farther diſtance, that they may have more room to grow big, without hurting one another.

§. 4. To raiſe Stocks from Seeds, or Kernels of Apples, Pears, or Crabs, (each of which ſort are to be ſowed by themſelves) you muſt go thus to work. *How to ſow Seeds.*

When either you or any Neighbour hath made Cyder, Verjuice or Perry, take the Muſt, Murc, (or as ſome call it the Pouz) which is the ſubſtance of the fruit after the Juice is preſſed out, the ſame day or the next day after, before it heats, and with a Riddle ſift out the Seeds on a clean Floor, or Cloth, and theſe you muſt ſow (as ſoon as you can conveniently) upon Beds of very fine Earth, very thick; for ſome being bruiſed in the grinding or pounding the fruit, and others not being ripe, may never come up; then ſift Mold upon them, about two Fingers breadth in thickneſs. This way is much better than to Sow the Seeds with the Muſt, Murc, or Pouz together, (as ſome do) becauſe the Muſt will heat them, and many of the Seeds will putrifie, and others will not be able to root or ſhoot up, becauſe they are ſo impriſon'd in that dry and tough ſtuff, clinging about them.

The Beds of Earth you ſow them on may be made about two Foot in breadth, with a good diſtance between the Beds, that you may the better come to Weed them, and draw them up as you have occaſion.

How to ſecure them from prejudice.

§. 5. To keep Fowls or Birds from ſcraping them up, lay ſome white Thorn on the Beds till the Ground be well ſetled.

Some cover the Beds with Fern or Straw, to keep them warm in the *Winter*, which may not do amiſs, but then it muſt be taken off at the Springs approach.

If Moles or Mice get in (which you may eaſily diſcover, becauſe the Mice leave ſhells of the Seeds on the top of the Beds) they muſt be deſtroyed.

For Mice, lay Poiſon, or Oatmeal mixt with Glaſs pounded ſmall, and Butter, and caſt bits of it upon the Beds, or ſet Traps for Moles or Mice, better known than deſcribed.

The next Spring you will ſee theſe Stones and Seeds come up plentifully; firſt the Leaves, almoſt of the ſhape of the Kernel ſplit in two, and from betwixt them will the Stem Put forth. Keep them clean from the Weeds all the year, which muſt be plucked up while they are young, leſt if they get Root, in drawing them up, you root up the Seedlings with them; but if in the Weeding any Seedlings come up, ſet them again almoſt to the top; then water them.

Theſe

Theſe Weeds, and ſuch as are pluckt up any where elſe, thrown up into a heap, will rot, eſpecially if any Lime be ſcatter'd amongſt them, and become very good Manure; but this ſhould be before they are Seeded, for then the Manure made of them will be apt to make the ground it is caſt upon more ſubject to Weeds.

If a dry time happen, you may ſome time in the Summer water the Beds.

§. 6. Your Seminary is to be ſtored with Stocks raiſed of Stones and Seeds of theſe following, *viz.* *The proper Seeds for ſtocks, and ſtocks for each kind of Fruit.*

Peach-ſtones are to yeild Stocks for Peaches and Nectarines.

Stones of the Wheat-Plum (which is a Plum ripe in *Auguſt*, and is white) or of the white Pear-Plum, or of ſome other good white Plum (in defect of them) whoſe Tree puts forth large Shoots, Branches, and Leaves, or for want of them, Stones of the Muſtle-Plum, black Pear-Plum, Primordian, or any other black or red Plum, whoſe Tree is of free growth, and large leaved, will yeild you excellent Stocks for Peaches, Nectarines, Apricocks, and Plums; but ſtocks raiſed from the ſtones of Damſons are the worſt, and very bad, being dry ſtocks, and not ſo ſappy as the before-mentioned. *Stones of the white Pear plum or Wheat-plum make the beſt ſtocks for Peaches, Nectarines and Apricocks to be inoculated on.*

The Seeds of Pears yield the beſt ſtocks for Pear-trees.

Grafting Pear-Grafts or Cyens on a white Thorn or Quince ſtock, will make the Tree to be of ſmall growth, and the Fruit bad, having hard and ſtony Cores, if grafted upon a Thorn Tree.

Black Cherry ſtones and Red Cherry ſtones yield ſtocks to Graft or Inoculate Cherries on; but the Black Cherry ſtocks are beſt; for they yield goodly ſtraight large Plants, and full of Sap, and become greater Trees than thoſe produced of Red Cherry ſtones, and conſequently more proper for Orchards and Fields.

To Inoculate an Apricock very low on a white Pear-Plum ſtock, or on a Wheat-Plum-ſtock, and then after a Years growth Inoculate a Peach or a Nectarine on it, is highly approved; only this way there will be two Years loſs of time: And note that the red Roman Nectarine will ſcarce take on a Plum-ſtock any other way.

Stocks raiſed of Crab-kernels are better than thoſe raiſed of Apple kernels.

The Seeds or Kernels of Crabs and Apples yeild ſtocks the moſt proper to Graft any kind of Apple upon, and though the ſtocks raiſed of Apple-ſeeds or Kernels do ſhoot more clear and ſmooth, and come forward faſter, and are of a quicker and larger growth in ſtock than ſtocks raiſed of Crab-kernels or Seeds, and Grafts grafted on them will grow quicker than on Crab-ſtocks, yet by the univerſal conſent and experience of all, ſtocks raiſed from the Seeds or Kernels of Crabs are preferred either for

Orchards

Orchards or Fields, Cyder, Baking, or Table, far before ſtocks raiſed of Seeds or Kernels of Apples, and that for theſe reaſons: Crab-ſtocks are more free from Canker, and more hardy, and ſo better able to endure cold and courſe Land, and becauſe they root better, and ſo will make large Trees, and will make Buds, Bloſſoms, and Fruit more hardy and ſtrong to endure froſt and cold weather in the Spring: it alſo not only preſerves, but quickens, enlivens, makes briſk and poignant the Guſt of any delicate Apple.

But if you intend to propagate any delicate Apple which is over tart in taſte, Graft it on ſome ſtock raiſed of the Gennet Moyl, or ſome ſweet Apple Tree, which will ſweeten its juice ſomething. So a Pear is improved by Grafting on a Quince-ſtock, but the Tree will not be large, but ſerve well for a Dwarf-Tree.

However where you cannot conveniently be ſtored with Crab-kernels, Apple-kernels are not ſo much inferiour to them, but they may well enough be made uſe of (as they commonly are) for raiſing ſtocks to Graft Apples upon.

Objections againſt Crab-ſtocks got out of Woods and Hedges to Graft Apples on.

Do not furniſh your ſelf with Stocks for Apple-trees by getting young Crab-trees out of Hedges, rough grounds, and Woods, becauſe the Workmen in getting them break ſome, and hurt others of the principal Roots; and it ſometimes falls out that they

have been cut down, and Sprung up again, out of the remaining ſtump, or otherwiſe hurt, which though not eaſily diſcern'd, becauſe skin'd over, yet will be a prejudice to them for ever; alſo many of the ſtocks ſo got out of Woods and Hedges, have, for want of room, and by reaſon of ſhades and the dropping of other Trees about them, been checkt and baffl'd in their growth, and ſo become crooked, ſcabby, ill grown, rough, and unkindly, and never like to make good and thriving Trees. Some that furniſh themſelves this way with ſtocks, chooſe ſuch as are largeſt, and thoſe having for the moſt part, thick and hard Bark, and old Roots, which come on but ſlowly when they are removed to make Apple-Trees. Likewiſe if theſe ſtocks be not Grafted very low, (and if they are, a Years growth or two will be loſt) they will put forth Branches and Suckers of their own every Year, in ſuch abundance, that without conſtant pruning of them, the Grafts will be in danger of being ſtarved, and a better advantage may be made of Crab-trees in Hedg-rows and rough Grounds, by grafting them where they are, where they will thrive the better.

The only objection is, that a Man cannot be furniſhed with Trees of a good largeneſs, to bear ſo ſoon by ſtocks raiſed by Kernels and Stones as thoſe got out of Woods, &c. or thoſe raiſed by Suckers, that

that may be of ſeveral Years growth before uſed.

To which it's anſwered and approved by daily experience, That if at the ſame time that you get Crab-tree ſtocks (of ſix or ſeven Years growth) out of the Wood or Hedges, or Suckers, and ſet them in order to be grafted, you ſow Kernels or Stones, the Stocks and Suckers you ſo graft for ſix or eight years may continue larger and bigger than Trees that come of Kernels and Stones, but yet theſe leſſer Trees ſhall ſo get ground of the other, that by the tenth or twelfth year they ſhall not only overtake them, but out-ſtrip them in growth.

Stocks for Pears, Plums, and Cherries, of ſuckers, not good.

And as to the way of raiſing of Stocks for Pears, Plums, and Cherries, by Suckers, it's to be obſerved, that Trees ſo raiſed will be ever apt to caſt up ſuch Suckers themſelves, and ſuch as do, are ſeldome found to be good bearing Trees, becauſe they expend their Sap ſo much that way.

Nevertheleſs Suckers ſpringing out of the Roots of Pear-Trees, Plum-Trees, and Cherry-Trees, may be good Stocks for to graft Pears, Plums, and Cherry-Grafts on for Wall-Trees and Dwarf-Trees, becauſe they make Trees of ſmall growth.

And one ſhall very difficultly ſtore himſelf with Crab-Tree Stocks from the Wood and Hedges, and from Suckers, to ſuch a number as he may deſire, becauſe many of them will prove bad and miſcarry; where-

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as from Kernels, or Seeds and Stones, it's almoſt the ſame labour to have thouſands as hundreds, and ſuch as will almoſt all of them be fit and proper for uſe.

You may alſo raiſe Stocks to graft Apples and Pears on, by ſetting cuttings of the Gennet Moyl, and *Kentiſh* Codlings, and the Quince-Tree for Pears, by ſetting thoſe in the place where the Trees of Apple and Pear are to grow, in Dwarf or Wall Trees: and alſo the ends of Roots, cut off from young Trees, taken up to be tranſplanted, and ſet in Beds of good Earth, will ſhoot forth tops, and become good Stocks, which may ſerve for Dwarf Trees and Wall Trees.

Or you may Inoculate Buds on the ſmall Roots of great Trees that grow at fartheſt diſtance from the Bodies, and after a years growth to cut off the Root about a Foot in length, with the new ſhoot growing upon it, and tranſplant it; becauſe a Tree will be raiſed thus ſooner than from a Seed or Stone.

In caſe of an exigent for a ſtock or two, this way may be practiſed, but it will be found too troubleſome for a general uſe.

Suckers ſpringing from the Root of the Wheat Plum-tree, or white Pear-Plum-tree, make excellent ſtocks for Peaches, Nectarines, Apricocks, and Plums; but to have plenty of ſtocks for large ſtandards for Orchards or Fields, there is no better way of raiſing

raiſing them, than by ripe Kernels or Seeds of Crabs, or for want of them, of Apples, (the ripeneſs of the Seed or Kernel is known by its being black) and of Pears for Pear-ſtocks, and of Cherry-ſtones for Cherry-ſtocks, and of Peach-ſtones for Peach-ſtocks, to Inoculate Peaches and Nectarines on, and of Wheat-Plum and white Pear-Plum-ſtones to graft or Inoculate Peaches, Nectarines, Apricocks, and Plums on; with which a Man may eaſily provide himſelf.

Of removing and tranſplanting Seedlings or Seed plants from the Seminary into the Nurſery.

§. 7. In the later end of *October*, or beginning of *November*, after one Summers growth in the Seed-plot, you ought, and muſt in no wiſe neglect to draw up with your hand ſuch of your Crab, Apple, or Pear-Seedlings, as you find grown a Foot or more in height, but thoſe which are not grown a Foot in height you may let remain in your Seed-Plot another year; and as for thoſe proceeding from Stones, they need not be removed, but grafted or inoculated in the Seminary, the ſtones being ſet at ſix Inches diſtance, as afore is ſaid; but very many will in *October* remove thoſe coming of ſtones as well as of Seeds or Kernels, and like it beſt; becauſe ſuch as grow two or three years upon the Seed-bed before removing, thruſt their Roots very deep in the Earth, and are not only very hard to be drawn up, but their Roots, when ſet again, (though a great part be cut off) muſt of neceſſi-

neceſſity be thruſt down very deep into the Earth; and then ſuch ſpread their Roots deep and below the good Soil, by thruſting their young Roots from the loweſt part where the Root was cut off, and ſo they neither have ſo good Nouriſhment from the Earth, (as ſpreading below the beſt Soil) nor are they ſo eaſily tranſplanted when ready, as thoſe drawn the firſt year, and are ſet very ſmall.

How to order the Seedlings after drawn up.

§. 8. When the Seed-plants or Seedlings are drawn up, cut off the ſide-ſprigs from about the top, and the ſtrings from about the Roots, and ſnip off the ends or extremities both of the top, that it may not run too faſt upwards, but the Body may grow in bigneſs, and of the Tap or Heart-Root, that it may not run directly downwards, (leſt it run farther than the good Soil) but may be more apt to ſpread its Roots in breadth, and near the top of the Ground, where the beſt Soil is.

Then have Beds prepared of good fertil dry Earth, not over-rich, leſt upon removal afterward into a much worſe Soil, (as for the moſt part Orchard and Field-ground is) your Trees coming of a ſudden from ſuch delicate Food to ſuch courſe Fare, pine away, if they do not periſh. And this is rationally thought to be the cauſe why many Trees bought out of *London*-Nurſeries (which are vaſtly deep with fat and

and rich Manure) decay, or come on very poorly when they are brought into the Country.

Therefore upon every removal or tranſplanting, either of Seed-plants, or young Trees, endeavour to have Earth as good, or better (to place next the Roots at leaſt) than that out of which they were taken.

If any of theſe ſpring upright, top them early, (that is, cut off about an Inch long at a Bud at the uppermoſt end of the Seed-plant, that the cut may be covered with a freſh ſprig) and it will make them grow bigger Bodied, and ſpread at the cut place, and ſo become ſooner ready for Grafting. And let not the Roots be too long; about a handful in length (or leſs) is ſufficient; for if the Roots be long, and ſet deep, the Trees afterwards are taken up with more difficulty, and worſe Roots. And the reaſon why all Seed-plants ought to be tranſplanted or removed after one Summers growth on the Seed-bed, is, becauſe they get good Roots, which of themſelves thruſt down one ſingle Root for the moſt part, and that into the bad Soil. But if you would have ſtocks an Ell or more high, to Graft or Inoculate for Standerds, you muſt not top them, or cut off their Tops; becauſe topping them makes them to ſpread at the cut place, and their growing up to ceaſe.

If you would Plant an Orchard, and have excellent ſound Trees, early, and great bearers,

ers, and the Trees free from Cankering, remove your Seed-plants into the places, and in the order you intend your Apple or Pear-Trees to grow, and let the Seed-plants or Stocks grow there two years, and then graft them, and order them as you do Trees that are set in Orchards, and by this means there will need no removal after Grafting, and you'l be quit of the many mischiefs that attend Transplanting, and have better bearing, freer growing, and sounder Trees than any you can transplant out of the Nursery into the Orchard, only you must carefully preserve them from Cattel, Hares, and Conies, both before and after Grafting, until they have attain'd a sufficient height and bigness.

Of setting the Seedlings, stocks, or seed plants.

§. 9 Let every Bed you make for setting these Plants or Stocks in, be about two Foot broad, leaving room betwixt each Bed to walk and work about them, without prejudicing the Plants or Stocks; set two rows a Foot or more distant from each other on every Bed, by drawing a Line and pricking holes a full Foot a sunder; let the holes be so deep that if the Roots be not very long, you may set your plants or stocks about two fingers breadth deeper in the ground than they grew in the Seed-Plot; close the Mold about them, and if it be a very dry time, water them the very same day,

day, the better to settle the Earth about them.

If you can get old Fern, (in some places call'd Brakes or Brackin) or for want of it, Straw or new Dung, cover the Beds with it, which will keep the Roots warm in the Winter, and preserve them from overmuch heat in the Summer; if the Land be any whit stiff, this cover will make it mellow, and when rotten enrich it, and very much hinder the growth of Weeds, which ought duly to be pluckt up; and put new Fern, &c. as the old rots: and be sure you draw the biggest of the stocks first, and set them by themselves, and the least by themselves, and set stocks of Crab-kernels by themselves, and of Apple-kernels by themselves, and stocks raised of Plum-stones, Cherry-stones, Peach-stones, each distinctly by themselves in straight rows.

If you intend to raise any stocks to be set out in Fields before they are grafted, you must not top them upon their first removal, neither need you remove them before they are grown high enough to stand in the Fields; if you find that they spread their Roots, and run not downwards, as in gravelly, and such kind of Soils they will not be apt to do, (and by the first you draw up you may judge of the rest, whether they do or no) if you reserve any for this use, you had best choose such as grow straight, and at convenient distance one from

from another, which you may contrive to do in drawing out the firſt two years ſuch as be of ſtature to be tranſplanted from among them; dreſs theſe once or twice a year, by cutting off the biggeſt ſide-branches, to haſten their growing tall, but leave on the top, and ſome ſmall ſide-branches, for this cauſeth them to thrive in bigneſs the more, which they ought to do proportionable to their height, or elſe they will be too weak to bear a top.

Obſerve this alſo in your Grafted Trees in your Nurſeries or elſewhere.

Grafts muſt not be grafted on different kinds.

§. 10. All Stocks and Cyens or Grafts that proſper when they are joynted together, are congenerous, or of the ſame kind, and nearly related in ſome degree; therefore Cherry-Grafts, or Cyens, Grafted or Inoculated on Plum-ſtocks, will not proſper long, nor Plum-grafts on Cherry-ſtocks, neither do Apple-grafts on Pear-ſtocks, nor Pear-grafts on Apple or Crab-ſtocks. Neither will an Apple Cyens grow grafted upon a Sallow, Poplar, Alder, Elm, or Horſe-plum.

Apple-ſeeds, &c. will not produce the ſame kind of Apple, &c. they were had out of.

Seeds or Stones of Fruits gathered from Trees that have been grafted, or inoculated on ſtocks of different kinds from the Graft or Cyens, produce of themſelves (not being grafted or inoculated) not the ſame Fruit as that was from whence the Seed or Stone

Stone came, but a different and most commonly a far worse Fruit; and as concerning the Seeds of Apples, it's to be observed, That although they produce not Trees bearing the same kind of Apples as those the Seeds were had of, yet without grafting they will bring forth a good harsh Fruit that may yield good Cyder; and thus it's said we came by some of our best Cyder-Apples. Neither are some sorts of Crabs so contemptible a Fruit as they are generally accounted; for being gathered very ripe, and kept a good while to mellow, some of them will make good Cyder, or ground with other mellow Fruit, do much enrich the Cyder, and are the best refiners of foul Cyder; and generally Crabs yield a strong Liquor, so that such kind of Crab-stocks may rather help to mend some Apples of weak Juice, than make them worse. And this inconvenience is always found in Trees coming of Seed, and not grafted or inoculated, That they are very long before they bear Fruit, whereas stocks grafted or inoculated from Trees, which experience assures are of good bearing kinds, and Fruits, commonly bear well in three or four years, and so continue. If you would have some Trees raised of the Seeds of Apple-kernel, view your Seminary about Michaelmas, and see which of your Seedlings have produced the broadest, fairest, and largest Leaf and Shoot, and those elect for your Trees to be

set without Grafting, for it's commonly observed that those Seed-plants or Trees that have very large, fair, and broad Leaves, bear the fairest and largest Fruit.

Meer grafting betters not Fruit.

§. 12. Mere Grafting doth not meliorate the Fruit at all; as if you graft a Cyen upon the same Tree you took it from, the Fruit will be the very same, without the least alteration from what the Tree bore before it was so grafted; but Fruit may something participate of the nature of the Stock wherein it's grafted, so as to be made by it either better or worse; as if you graft a very sour Apple Cyen upon a sweet Apple Tree, the Fruit will be something better: So a sweet Apple Cyen, grafted on a very harsh sour Crab-stock, hath produced a better Fruit than the Tree from whence the Apple-graft was had. So a Pear-Cyen, grafted on a Quince-stock, hath mended the Pear; and though the Graft doth keep its own Nature, and mightily predominate on what Stock soever it's grafted, yet such an union as that of the Stock and the Graft, in natural Bodies, is hardly conceivable without some commixture of their Natures, and there are some reasons from experience which make this more than probable, as

I. The Seeds of a grafted Tree take much after the stock, and it's something strange to conceive the Kernel should participate so

so much of the stock and the Fruit be nothing influenced by it.

II. Those that produce the best Fruit by their stones or seeds, yet vary from the Fruit the seed or stones were taken out of, which in all likelihood proceeds from the mixture of the quality of the stock and Cyen in that Tree the stone came from.

III. It's manifest that amongst Trees of one kind, in the same Orchard, you shall have some one of them bear better Fruit than any of the rest sometimes; and it's not known what to impute this excellency more probably to, than that the Stocks they were grafted on might be Crab-trees that bore Crabs of several kinds, some better, some worse.

So that to conclude, it cannot be amiss to be so far curious about the Stocks you graft, as rather to choose such Seeds and Stones to raise them from, as come from Trees that bear the best Fruit in their kind (if you can have them) than to take them at adventure, which makes some choose Seeds out of fair, large, juicy Crabs, to raise stocks to graft some delicate Apple-grafts on.

Concerning the Pith of a Tree.

§. 13. It's held by some, That the Kernel of the Fruit hath a great dependance upon, and Sympathy with the Pith of the Tree, and that hollow Trees, though they grow and bear Fruit, yet that Fruit hath few Kernels in it, and those little better than withered Husks; and experience evidences that there are some hollow Fruit-trees that bear Fruit so much more excellent than any of the same kind the Owners have had, or could elsewhere meet with, that they have been very desirous to propagate from them, but never could, any manner of way, raise young ones of those old Trees, that would bear so good a Fruit as the old Trees: which seems to intimate, That the Fruit of a Tree may be the better for the Piths being consum'd; and if that be true, as it must be so, because the Pith conveys to the Fruit a worse sort of Juice than any other part of the Tree doth; and therefore being freed from that infection by the consumption of the Pith, the Fruit becomes more choice and delicate: and that the Pith is the conveyance of a courser or other sort of juice, is rendred in some sort probable, because (as hath been before observed) the Kernels of Fruit depend much upon the Pith, which almost never produce such good Fruit as the seeds or stones come out of, but generally much worse.

§. 14.

§. 14. Because most men are through ignorance indifferent whether they have Fruit-trees of their own or no, because for a little money they can have Plants from others, ready brought up to their hands; yet it's far better to have them of their own bringing up and Propagation, and to have Seminaries and Nurseries of their own for this purpose, for these reasons,

Reasons why every one ought to Graft, Plant, and raise his own Trees.

I. Because this way a Man shall be sure to meet with no failure, either in the kind, great bearing, or goodness of the Trees and Fruit; in all which he shall frequently be disappointed and lose much time and expence, if he have his Trees upon the reputation and trust of others, who make a Trade of selling them, and are therefore many times incurious, careless, and perhaps knavish in raising them, and in stead of the right kinds, (if they can get either ease or any thing by it) will not stick to put him off with another.

II. This trouble and expence of buying young Plants, and getting them home, (many times from places very remote) and the prejudice they often receive in the carriage, will be wholly prevented.

III. This way a man shall, with almost the same labour and charge, both furnish himself sufficiently, and have so many more as to defray the Charge he may be at about it, if he will sell them, or to gratifie his friends, if he had rather bestow them.

IV. He will this way be provided with ſtocks for Apples, Pears, Plums, Cherries, and all choice Wall-Fruit, raiſed from Kernels and ſtones of Fruit, which are incomparably better than ſtocks procured any other way.

And laſtly thoſe that propagate Trees for Sale have their Nurſeries exceeding fat, rich, and fertil, whereby Trees removed out of them into the Orchard, *&c.* of others, which are always almoſt of a far courſer and worſe Soil, frequently prin, pine away, and very often dye; and if they live, they ſeldome prove fair, large, or well bearing Trees; and it often happens, that the Air and Soil into which they are removed, is heterogeneous and unſuitable for Trees coming out of the Air and Nurſery you have them: For it's a ſure Rule, always to tranſplant or remove Trees or Stocks from a worſe to a better Soil upon every removal, and then they will proſper well. So Trees removed out of the South into the North ſeldom proſper, whereas Trees removed out of the North into the rich Southern Soils, like well: So Trees brought up in Nurſeries in *Lancaſhire*, and tranſplanted into *Ireland*, thrive and bear exceeding well.

About the Bark of Trees on Barren ground.

§. 15. Stocks or Trees that grow on barren ground, have commonly their Bark very white and hard, whereas thoſe on good Land have their Bark very ſmooth, green, and

and plump, and the laſt years ſhoots large and full; but the others ſhoots are ſhort, ſmall, and meagar.

§. 16. If one have a mind to raiſe a good new Fence about a Field he deſigns to incloſe, which he can keep for four or five years together, to bear Corn, or Clover-graſs to Mow, that Cattel may be ſo long kept out of it, he may do it rarely well, by ſowing Apple-Kernels of as many ſorts as he will on the top of a new-made Ditch-bank, making the dead Hedge (that is uſually on the top of the Bank) on the utſide of the Ditch, to defend them. *How to raiſe a Fence of Crab-trees*

When they are grown up, he may plaiſh this Hedge, leaving at every four or five yards diſtance one of the beſt Trees to grow up, which of themſelves will bear good Cyder-Fruit, (which he may gueſs at by the broadneſs and largeneſs of the Leaves they bring forth) or may be grafted to bear what pleaſeth the owner: and by this means in a little time, and with ſmall charge, he ſhall have a fruit-bearing and impregnable hedge.

§. 17. Let all Stocks whatever, that are removed, grow a year or two before you graft them; and notwithſtanding ſome opinions to the contrary, no ſort of young Plants or Stocks, that come of Seed or Stones, ought to be grafted or inoculated in the place where they were ſowed, before that they *Remove out of the Seminary all Stocks, whether raiſed of Seed or Stones.*

have been removed; becauſe if they be not removed, they thruſt down a ſingle Root or two commonly into Clay, Gravel, or moiſt ground, *&c.* which Root or Roots draw bad nouriſhment from below the good Soil, which always is neareſt the top of the ground, and thereby hurts Trees, Roots, and Fruits, and in caſe any of them be there grafted, and removed afterwards, they want good Roots, and are difficult to remove, becauſe not removed when young, of one or two Summers growth.

CHAP.

CHAP. II.

Of the Ways, Manner, and Time of Grafting.

§. 1. FRom the middle of *January* until the beginning of *March*, if the Weather be open, without Froſt, and grow warm, the wind not being North or North-Eaſt, you may graft Plums, Cherries, and Pears, but not Apples, till the Bark of the Stocks will a little riſe or peel from the wood, which is ſeldom before the middle of *March*, and often not till *April*, becauſe this is neceſſary for the beſt way of grafting them; but if you will graft any Apples in the Cleft, you may do it from the beginning of *March* until the tenth of *April*, and that with ſucceſs; but grafting in the Cleft early in the beginning of *March*, is beſt, eſpecially, if the weather be mild and open: and Graft not within ſixteen hours before or after the Change or full of the Moon. *The time to Graft in.*

§. 2. Your Inſtruments to graft with are to be a fine, neat, ſharp, ſmall, well-ſet Saw, to cut off the heads of ſome ſtocks which are *The grafting inſtruments.*

are grown too big for the Knife; a good ſtrong Pruning-Knife, made a very little coming, which will be ready to cut off the heads of your ſmaller ſtocks you intend to graft: alſo a good midling Knife to cleave ſome of the ſmaller ſort of ſtocks with; alſo an Inſtrument like a broad Chiſel, the handle of Iron, and the edge alike on both ſides, not ſloping on one ſide, like that of Joyners, but plain as a Knife, and very thin, about three or four Inches in breadth; with which you may either cleave your larger ſtocks, or prune your Trees; alſo a little Mallet, or elſe a ſtick about a Foot long, made of an old Spade or Shovels handle, or ſome other hard wood, to uſe inſtead of a Mallet, to drive your Knife when you cleave the ſtock: Alſo an Iron Tool about ſix Inches in length, made turning at each end about an Inch and an half; if it be ſteeled at either end, it will be the better, and not ſo apt to bend when you open a ſtrong ſtock: theſe ends are to be made flat, a little like a Chiſel, but not above half an Inch broad at moſt, only pretty ſtrong; if you will, one end may be pretty ſmall for the ſmaller ſtocks, and the other bigger; the uſe of it is to ſupply the place of a Wedge, by holding open your Stock till you have ſet your Graft or Cyen exactly in its place in the Cleft of the Stock.

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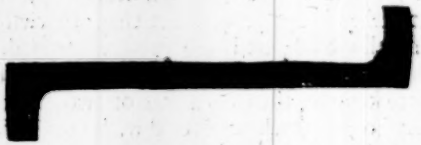

Instead of this Instrument you may use a Wedge of hard wood, about a Foot long, especially for great and large stocks.

You are also to have a sharp Pen-knife, to shape your Grafts or Cyens with, and also a Whet-stone to quicken the edge of your Knives when dull, and a Basket to carry your Tools in, and another to carry your Grafts or Cyens in: Also you are to have Ruches, Basses, or soft Flags, to bind Grafts or Buds to the Stock. You may be furnished therewith at the Mat-makers.

The manner of preparing clay: and how to clay grafts.

Also you must have Clay prepared with Horse-dung very well mixed and workt together as Mortar, about two parts Clay: If it be not well temper'd and wrought together, it will be apt to fall from your Graft, in case of much Wet, or chop, or cleave if dry weather happen, and so you'l lose your labour in Grafting; for you must Clay your Grafts close on every side an Inch above the top of the Stock, and an Inch below the bottom of the Clefts, that no Air get

get in to wither the Graft; and keep Clay on the grafted part until the ſtock be covered over with the Graft. For Clay is as a Salve to a Wound, which heals it up, and it rather keeps out moiſture than otherwiſe, if well cloſed; and alſo preſerves from dry winds, Sun, and other annoyances: Therefore keep on the Clay a year or two, till the head of the ſtock be cover'd with the Graft, and the cleft healed up.

Choice of Grafts or Cyens.

§. 3. Theſe Cyens or Grafts you get ought to be the laſt years Shoots, ſtrong and very well grown, that grow on the top or out-ſide of a Tree, that ſeveral years experience of thoſe that know it, can faithfully aſſure you bears very well, and good fruit of its kind; and cut not off the tops of the Cyens until that you graft them, for ſo they will keep better; but immediately after grafting, the tops of Grafts are to be cut at a Bud, that they may ſpread the better, and of ſuch as are but ſhort, if there be Bloſſom-buds on the top, as it's commonly ſeen in Pearmain-Cyens, and many other good bearing kinds. Grafts that are very ſmall and ſlender commonly fail, therefore chooſe the faireſt, fulleſt, and ſtrongeſt ſhoot of the laſt years growth, and fulleſt of Buds, and of good bearing kinds, elſe you may have fair Trees, and little or no Fruit on them, and ſo fancy you have an Orchard, though ſeldom Fruit; for ſome Trees will grow

grow and bloſſom very well, yet rarely bear Fruits; the reaſon is, for that they were grafted from bad bearing Trees, and are of bad bearing kinds.

A ſhoot or Branch of the year next foregoing makes the beſt Cyens or Graft, and thrives beſt, though in *Herefordſhire*, when they graft old Trees, they commend and uſe Cyens of two or three years growth, yet thoſe are ſeldom found to have convenient Buds to put forth at, and often times have bloſſoming Buds on them, and make not ſo good a growth, neither have they ſo good a joint to graft at as thoſe of the laſt year.

When you get Grafts, you had beſt cut off at leaſt three Inches of that which grew the year before with them, beſides the laſt years Shoot, for ſo they will keep the better, and you may uſe about an Inch and an half of that old Wood in every Cyens when you Graft it.

Perhaps you may not have ſeveral ſorts of Plums, Cherries, or Pears ſo near you, as that you may get Buds freſh enough for Inoculation: In this caſe you may procure Cyens, and graft them, and they will continue freſh, though you ſhould ſend for them from beyond Sea.

Theſe Cyens or Grafts of any kind may be grafted immediately after they are gotten, and that ſucceſsfully; or they may be kept three Weeks or a Month before they are uſed, and there ought to be a Fortnight

or

or three Weeks betwixt the time of their being cut, and their being grafted, that the Stocks in that time may be repleniſhed with Sap, and the Cyens more empty of it; and then they will quicker incorporate by more greedily attracting the Sap out of the Stock.

To keep your Cyens or Grafts after they are cut, you need not, as ſome direct, bury them in moiſt Mold; for this may be a means to make them ſwell and bud forth by receiving moiſture from the Earth, and then when by grafting they are expoſed to the cold open Air, they will be in danger to wither and die before they have nouriſhment from the Stock. You may lay them in a dry houſe, ſo it be near no heat, or under the ſhade of an old Tree or Hedge, and cover them all over with dry Mold, that the Air may not have too much Influence upon them: though they ſeem ſomewhat dry, yet if they cut with a freſh colour, and be not much withered, they will not grow the worſe, but rather the better; yea ſome that have ſeemed withered, being carried 70 or 80 Miles, have grown well. And they may be carried hundreds of Miles in a Box of Mold, or their ends ſtuck in Clay, or a Turnip, and wrapped about with green freſh Moſs, that they bruiſe not; bind not many together; for if ſo, thoſe in the middle will dry, and be ſpoiled in certain days, but rather lay them thin in the Mold.

Be

Be very careful that the Buds be neither hurt or rub'd in the binding or carriage of the ſaid Grafts.

In providing Cyens or Grafts of Pears, Plums, and Cherries, you muſt cut them in the beginning of *February*, having reſpect to the forwardneſs or backwardneſs of the Spring, and the warmth or coldneſs of the Country you live in; but you muſt be ſure to cut them before the Buds have any ſpeck of white appear on them.

Cyens or Grafts for Apple-Trees will ſeldom be too forward any time before the beginning of *March*.

Grafts of Cherry and Plum-Trees muſt be grafted ſooneſt, becauſe they bud earlieſt, and you are to begin with them ere they bud forth, then with Pear-trees, and laſtly with Apple-trees.

Elect the faireſt and largeſt Grafts on the top Branches of a Tree, and of the laſt years growth, and on the Sun-ſide of the Tree, which will bear ſooner than thoſe got on ſide-branches.

§. 4. There be ſome indifferent whether they graft at a joint or no, but forecaſt to have a Bud directly behind the ſhoulder of the Cyen; if Cyens with joints were ſcarce, you might practice ſo on ſmall Stocks, that will ſpeedily be cover'd, but if Cyens can be had with joints, never graft with others, for theſe will cover the Stocks ſooner. How-

Of joints and height of grafting

ever

ever this is the opinion of many, yet I always grafted at one of the loweſt Buds on the thicker end of the laſt years Shoot or Sprout, and valued not a joint of the former years growth, unleſs the Graft were too ſhort; for the ſtraiter and ſmoother your Graft is, the more exactly you may fit it to your Stock, eſpecially if your Stock be young, and have but a thin Sap, and this was very ſucceſsful; however grafting at a joint may do well if the Stock have a thick Sap or Bark, as commonly your Wood-ſtocks and all large Trees have. The wood below the knot or ſeam is commonly crooked, and not ſo ſmooth and ſtraight as the wood below a Bud on the thicker end of the laſt years Shoot; therefore rather graft at a Bud, becauſe you may joyn the Graft and Stock the more exactly.

Height to graft at.

§. 5. If you Graft Apple or Pear-Cyens, graft a Foot or leſs from the ground; do the like for Wall-trees and Dwarf-trees, but if you graft Cherry or Plum-Cyens, for ſtandards in Orchards or Fields, graft them ſix or ſeven Foot high, and at that height let them begin to ſpread; and when you graft, cut the top of the Cyen or Graft off cloſe above a Bud, about four or five Inches above the Shoulder, if it be for a Standard-tree, two Buds above the Clay being full enough; but for Dwarfs or Wall-trees, you may let the Cyens or Grafts be ſix Inches or more long,

long, with several Buds, that they may shoot forth many Branches and spread from the very Stock. If you Graft old Apple, or Pear-trees, or their Branches, you must Graft according to the thickness of their Branches, which is usually seven or eight Foot high or more. It will do well in Grafting Stocks for large standards, to put but one Cyens or Graft into a Stock (unless the Stock be very large, or an old Tree you Graft) and if it put forth several Shoots, to cut off all but one, that is the straighteſt and strongeſt: But for Dwarffs and Wall-fruit, put in two Cyens if the Stock be big enough; let the later be Grafted near the ground, the former at such height you think fit, and the Stock will allow.

§ 6. If the Plants that you removed out of the Seed-plot into the Nursery, and such Stocks for Stone-Fruit in the Seed-plot as you intend to Graft, be half an Inch over in thickness where they are to be Grafted, or little more, its enough; Its best not to have them above an Inch in the Diameter, both that you may lose no time, and that the Stock may be easier cover'd by the Cyen or Graft. In the cleft you may Graft any Stock, that is a little above half an Inch, to three Inches Diameter at the place to be Grafted at; but one Inch Diameter of the Stock at the Grafted place is the best, *The size of Stocks to be Grafted.*

How to mark Trees to know and distinguish their kinds.

§ 7. In Grafting or Inoculating its necessary to have some mark, to know what kind of Fruit is put upon each Stock: If you Graft many of one kind, (as it's necessary for Cyder-Fruit) you may observe to make every row to consist but of one kind, and it's but entring in a Book, that such a row hath such a kind of Fruit in it, and no other; but where there are several in one row, there may be a Stake knockt into the ground, at the beginning of every new sort, and so entred in your Book; and where you have very few of a kind (or for the whole Nursery if you please) you may make marks of several figures or shapes in the Bark of the Stocks, which marks enter in your Book, and what kind it denotes, and at two or three years when you remove it, the mark will be very visible, and by renewing the marks sometimes, you may continue it as long as you please; and if any Tree be stolen, you may own it by the mark, which is made with the point of a Pen-knife by cutting almost through the Bark of the Stock, the form of a Letter or any other figure or character whereby to know the kinds of Fruits.

Buds on the Stock at Grafting not to be pull'd off until the Graft put forth.

§ 8. Buds upon the Stocks that are engrafted, should be let alone, all or most of them, untill the Grafts have put forth Buds of their own, and be able to draw up the Sap out of the Stock, and then rub off all the Buds

Buds on the Stock, below the Grafts, that they may have all the Sap.

§ 9. Stocks that are white, when you Graft them will seldom make the Graft to grow well and prosper; the whiteness being caused through the barrenness of the Soil, and observe what length the Stock did shoot out Sprouts the fore-going year, and commonly so long will the Graft shoot out, or more, if it take well.

CHAP. III.

How to Graft several ways.

§. 1. THere are several ways of Grafting and all good, if Judiciously and dexterously performed: To which end, I shall endeavour to set down the most plain and exact description of each way, for the better and truer information of the young Planter, and first begin with that call'd slicing, or Packing on, which being described at large, may serve as a General direction for all.

Grafting call'd Slicing, or Packing on.

§. 1. Cut off the top of Stock, in some smooth and straight place, that may be Answerable to the straightness of the Graft, when set on. If you do it with a Hand-saw, cut it smooth afterwards with a Knife, leaving the top flat and even.

Then prepare your Cyen or Graft, (first observing which side is straightest at the bottom or thicker end, that so it may fit the straight part of the Stock when set on) by cutting the Graft or Cyen on one side only, from the Joint, Knot, or Seam, if the part

part below it be smooth and straight; (the Knot or Seam is a Circle round about the Graft, dividing and distinguishing the last Summers growth from the former) or from some one Bud on the lower part of the last years Shoot, or Sprout, down slopewise in the Wood till it be cut quite off, in that the slope may be about an inch long or somthing more, observing it's bent, that when the Graft or Cyen is fixed to the Stock, it may stand almost upright; and cut the Graft or Cyen thin at the bottom of cut place, yet leave on all the Bark on the opposite side; then give a cut cross through the Bark at the top of the Slope, and then cut a thin Chip of that Slope upward to the cross cut, that there may be a shoulder to rest on the top of the Stock, but cut not this shoulder too deep, little more than through the Bark will be enough, and this will cause a little rising in the Sloped part, which you must cut down, that the whole Slope may be plain and smooth, without dints or risings, and lie even and close to the side of the Stock. Cut then the top of the Cyen off, close above a Bud, about four Inches above the shoulder if it be for a Standard-tree, two Buds above the Clay being full enough; but for Dwarf, or Wall-trees, you may let the Cyen or Graft be six Inches long with several Buds, that they may shoot forth many Branches, and spread from the very Stock.

The Cyen or Graft thus prepared, lay the cut part of the Cyen or Graft upon the ſtraight ſide of the Stock, and if it may be, on the Weſt, or South-weſt ſide of the Stock, and ſo meaſure and mark the juſt length and breadth of; it then cut away ſo much of the Bark of the Stock, as the cut part of the Cyen or Graft may fit, drawing your Knife upwards; but as the Stock is bigger, and the Bark thicker than that on the Cyen, or Graft, ſo the Chip muſt be longer and broader, or els the paſſage of the Sap in the Stock and Cyen or Graft (which is chiefly betwixt the Bark and the wood) will not meet together, which ſhould and muſt be aimed at, as in the work you will eaſily ſee.

Then lay the cut part of the Cyen or Graft on the cut part of the Stock, and let the ſhoulder of the Graft or Cyen reſt directly upon the top of the Stock, ſo that the cut parts of both may joyn even and ſmooth all along, and ſo bind them together cloſe, with courſe woollen Yarn, Baſſes, or the inward peeling of the Witch-tree, if you bind with ſuch materials as will not be looſe or rotten by Midſummer; about that time give the binding a cut croſs-wiſe with a Knife to ſet the priſoners at liberty: Have in readineſs ſome Clay free from ſtones, well mixt with Horſe-dung, &c. (*Vide* Chap. 2. *Sect.* 2.) and daub it about the Stock and Cyen, an Inch above the head of the Stock, and

and an Inch below the bottom of the Cyen or Graft; work it up round the Cyen or Graft till it be sharp at the top, that the Rain-water may fall better off it; and with a Knife or rather a little Trowel dipt in water, smooth over the Clay, but in doing this, be very careful not to displease the Cyen or Graft.

Thus you may Graft Pears, Plums, Cherries, and Apples, if it be before the Bark of the Stock will part from the wood of them, for when it will, the next way following is better for Aples.

§. 2. The second way call'd Grafting in the Bark is much like this, and some prefer it before the beformentioned, or any other way; but it can only be used for Apples, because all Cyens of other Fruit, will be grown past use, before the Bark of the Stock will peel, which is about the end of *March* or beginning of *April*, but this will be time enough for Apples if your Stocks be in any thing good liking, which if they be not, they are not fit to be Grafted any way: Prepare then your Stock and Cyen or Graft, exactly as your were directed in Packing, only instead of cutting the Bark of the Stock, slit it on the South-west side, from the top, almost as long as the sloped part of the Cyen, and loosen the Bark at the top of the slit with the point of your Knife. *Grafting in the Bark or Rind.*

Have in readineſs a little Inſtrument made of Ivory, or of a Deer or Sheep-ſhanck or Silver, or of ſome hard ſmooth wood; at one end let it be made of the ſhape of the ſlope part of the Cyen, but much leſs every way; thruſt it down betwixt the Bark and wood of the Stock where it was ſlit, to make room for the Cyen or Graft, then take it out and put in the Cyen, but firſt cut a little of the Bark at the thin end of the ſlope of the Cyen or Graft, that it double not in going down, yet leave it with a ſharpe edge; and becauſe when your Cyen is put in, it will bear the Bark hollow from the Stock, nick or ſlit the Bark, on each ſide the Cyen, ſo that it may fall cloſe to the Stock, and to the edges of the Cyen; bind and Clay it as before.

Some peel off the outmoſt thin, brown rind of the Graft, on the oppoſite ſide to the cut and ſlope part of the Graft, that muſt enter between the Bark of the Stock and wood, but leave on all the inner green rind, and then thruſt the Graft down between the wood and Bark of the Stock, which does very well.

This way of Grafting is commended by ſome, as *Mr. Langford*, tho others diſapprove thereof; yet I have Grafted large Stocks often this way, and very ſucceſsfully, but with ſmall Stocks I ſeldom had the deſired Succeſs, tho as careful in the operation as poſſible; but the firſt way I take to be the beſt for them, for theſe reaſons.

I. Becauſe Stocks may be Grafted ſo, ſome years before they can be ready to Graft in the Cleft, and though Whip-grafting may be uſed ſooner than that way, yet there are other great inconveniences attending it.

II. The

II. The Stocks this way are less harmed than where a Cleft is used, because the Cleft lets wet into them, and rots and makes them not so fit for Grafting again, (if any fail to grow the first time) as these continue to be, though they should once miscarry.

III. The Cyen will much sooner cover the Stock and make a more sound, healthful and swifter growing Tree.

IV. This is more speedy, easy, and sure to succeed. Therefore if the Stock exceed three Inches Diameter at the place it's cut off, the best way is to Graft in the Rind or Bark, and you may set many Grafts round the Stock, and they will sooner cover the Stock; but if the Stock be from one Inch to three Inches Diameter, then Graft in the Cleft; if under one Inch Diameter, then by slicing, Packing on, or Whip-grafting.

Grafting in the Rind is attended with some inconvenience; for the Grafts usually make large Shoots the first Year, which in case the Wind happen to blow strongly on the opposite side of the Stock where the Graft is, commonly it is broken off, having as yet no other hold than in the Bark or Rind, and being top heavy with all, is easily broken; but after one Year the danger is past, because that which grows so plentifully at the joyning of the Graft and Stock the first Year being but sappy Rind, the next Year is converted into solid Wood.

Some

Some well approve by their experience the Grafting Stocks above three Inches Diameter, by placing two Grafts oppoſite to each other in the Cleft, and other two oppoſite to each other in the Bark, ſo that you may place four Grafts in ſuch a large Stock, and they will ſoon cover the Stocks head.

Whip-grafting.

§. 3. There is another way of Grafting ſmall Stocks call'd Whip-grafting; and here your Graft or Cyen, and Stock ought to be exactly of the ſame bigneſs as the manner of performing it plainly ſhews, *viz.* Slope off the Cyen or Graft a full Inch or longer, and do the like to the Stock, and tye the one upon the other; both the Stock and Cyen ought to be cut at the ſmootheſt and ſtraighteſt place. You may if you will make a Shoulder on the Cyen, and cut the top of the Stock to ſuit with it, and then bind them together, and Clay them about the place. If you joyn the Inner Bark of the Cyen and Stock exactly together at either ſide, it will grow, tho not ſo well as where the Cyen and Stock are of an equal proportion.

This way call'd Whip-grafting, is ſucceſsful enough, ſo that ſpecial care be taken that both Stock and Cyen ſuit exactly where they are joyned together, which is ſomewhat troubleſome to do; and ſo is it to find Cyens and Stocks of an equal bigneſs; beſides the head will be apt to overgrow the Stocks; all that can be done to prevent it, is

is to Graft theſe very low; or if high to give the Stock more liberty to thicken by ſlitting the Bark of it with a Knife almoſt to the wood.

In this way of Grafting there is another little Knack may be added to very good purpoſe, and that is, when the Stock and Cyen are prepared (as you heard before) to be joined together, to make a ſlit, or Notch with a Knife in the bare place of the Stock downward, beginning towards the top of the ſlope, and ſo ſlitting or Notching it a little way, and doing the like in the ſloped face of the Cyen, but beginning at the ſame diſtance from the lower end of it, as you did before from the top of the Stock, and ſo carrying it upwards, and then joyn them by thruſting the one ſlice into the other, till the bare place of the Cyen cover the bare place of the Stock.

This may be done likwiſe in Grafting by Packing, and in both conduceth much to ſtrengthen the work, and is called by ſome Lipping, or Tounging.

In Whip-grafting the cut parts both of the Graft and Stock, muſt joyn and anſwer one another from the top to the bottom.

This way of Whip-grafting is commended by ſome, not only for the ſame reaſon as ſlitting or Packing on is, but alſo becauſe the Graft ſoon covers the Stock, which is not impaired by ſlitting or cleaving, and the

the Graft having it's Wood, as well as it's Rind bound to the Stock, is not so apt to break off, as that which is Grafted only in the Rind, nor is the Graft apt to be top heavy, the Stocks being smaller afford not so plentiful Nourishment.

Grafting in the Cleft or slit.

§. 4. The next way of Grafting is call'd Grafting in the Cleft, which is the most Antient and common way of Grafting, and if carefully managed, not inferior to any other way of Grafting, tho the modern Planters do somthing slight it: You may Graft any Stock this way, from half an Inch to three Inches Diameter, and that if the Stock be no bigger than the Graft too, if you have neat Tools, and be ready in the managery thereof, and with good success, as I have frequently experienced. The manner is thus, *viz.*

Cut off the top of the Stock in some smooth and straight place, that may be answaerble to the straightness of the Graft that is put into the Cleft; if you do it with a Hand-saw, cut it smooth afterwards with a Knife, leaving the top flat and even.

Then cleave the Stock with a strong Knife, (or the Chisel before described at *Sect.* 2. in *Chap.* 2.) Let the slit run about two Inches deep, and let it be as near the middle of the Stock as you can, but not in the Pith or heart, and let the slit be on the smoothest

somotheſt ſides of the Stock. Have in readineſs the Steel inſtrument before mentioned at *Chap. 2. Sect. 2*, or els a ſtick of hard Wood near a foot long, at one end made like a Wedge; when you have taken out the Cleaver, put one end of the inſtrument, or els the Wedge into the slit or cleft of the Stock, and open it ſo wide as to put in the Cyen, when it is prepared, and made ready for that purpoſe.

Which is by cutting the Graft or Cyen from the joynt, knot, or bud, if it be ſtraight, or els from ſome bud on the thicker end of the laſt years Shoot or ſprout down aſlope on both ſides, ſomthing more than an Inch long, making it thin at the bottom, and in ſhape like a Wedge, very ſmooth and even without dints or riſings, that it may joyn cloſe all along, ſo far as it goes into the Cleft of the Stock, let the outſide of the Graft or Cyen be ſomewhat thicker than the inner-ſide, unleſs the Stock be ſo big as to pinch the Cyen or Graft much, then make the Cyen or Graft as thick on that ſide that goes into the Stock as on the outſide, which will prevent the Stocks hurting the ſappy part, and Bark of the Cyen or Graft, by preſerving the outſide from being pinched too much.

The ſlope cut off the Graft ſhould be an Inch and half long at leaſt, if the Stock be big enough to allow it.

You may let the Graft or Cyen have on the uppermoſt part of the ſlope, a ſhoulder on one ſide, or both, or neither; all theſe ways are uſed, but ſhouldering takes up more time,

time, and makes the Cyen or Graft weaker, and ſo apter by chance to be broke off; then with your ſharp Pen-knife cut away any Jags, or roughneſs, or blackneſs that remains after cleaving, on each ſide of the Cleft of the Stock within, and ſo put in either one, or two Cyens or Grafts; if the Stock be large, place them ſo as the paſſage of the Sap betwixt the Bark and Wood both of the Stock, and Cyen or Graft may meet and joyn all along the Cleft as near as you can; for you muſt be ſure always to joyn the inner ſide of the Bark of the Cyen or Graft to the inner ſide of the Bark of the Stock all along the Cleft, that the Sap may come out of the Stock to feed the Graft and make it grow.

The Graft being thus placed in the Stock draw forth the Inſtrument, or Wedge, and Clay them cloſe on every ſide, and an Inch above the top of the Stock, and an Inch below the bottom of the Cleft, and keep Clay on about the Grafted part untill the Stock be covered with the Graft, and it will be the ſounder Tree.

If you put but one Graft or Cyen in (which is beſt unleſs the Stock be large,) then cut off a piece with a ſlope cut from the top of the Stock about an Inch and half deep on the worſt ſide of the Stock, the Graft being to be put on the ſtraighteſt and ſmootheſt ſide, in cutting the Stock thus, the Graft will cover over the ſooner.

Many

Many cleave big Stocks crosswise again, and put in two more Cyens; but cleaving hurts the Stocks so much that it's better (if you will have more than two Cyens in one Stock) Graft the other two in the Bark, according to the second way of Grafting, but forecasting one of them to be on the West side of the Stock; But two Grafts are enough for any Stock.

It's an Erronious practise to set the outside of the Stock and Graft even and smooth; because the Bark of a big Stock is much thicker than the Bark of a slender Graft, and consequently if the outside be smooth and even, the inside must needs be uneven, but where the Graft and Stock are almost of an equal proportion, there you may set them smooth on the outside, but where the Stock is large, set the cut part of the Graft more inward into the Cleft of the Stock.

When you cut Grafts it's very convenient to leave a Bud or two on the outside of the cut place, that in case any of the Grafts happen to be broken off, such Bud or Buds on the outside, will spring out, and supply the defect, altho the Graft be broken off, even to the top of the Stock; or you may leave the Bud just at the shoulder where the Graft joyns to the top of the Stock, and it will answer the said intentions.

The

The only objection that is raised against Grafting in the Cleft, is, that the Stock being slit or cloven, the Rain is apt to get in and decay the Stock, and sometimes the Graft too, therefore caution must be used, not only the first year, but untill the head of the Stock be covered with the Graft, to keep well tempered Clay on the Grafted part both, of Cyen and Stock, and that as far as the Cleft extends it self, to keep out both Wet and Air.

I have Grafted this way Stocks from half an Inch to above three Inches Diameter, and that very successfully, observing the aforesaid rules, but a Stock of about an Inch Diameter is the best to use in this way of Grafting, which I like as well as any other, notwithstanding the opinion of all modern Planters is to the contrary.

There is one small observation necessary to be noted in Cleft-Grafting, and of no little concernment to make Grafts thrive well, which is to cut the Graft so as to be set as deep into the Stock as possible, so as the Stock be not clove too far, which is by making the cut part of the Graft to be an Inch and half long, or longer if the Stock be large, and thereby the Graft will attract more Sap, and make a larger Graft by much, than one cut but short from the Knot, Seam, or Bud. Therefore for that end make the cut part of the Graft an Inch and half long at least.

§. 5. Side

§. 5. Side-Grafting is done by preparing the Cyen or Graft as in Whip-grafting, then without cutting off the head of the Stock, (but making it thin of side-Branches) from a smooth Place of it on the West side, take off as much Bark as the Cyen will cover, as in Packing, and slit both Cyen and Stock accordingly as is directed in the third *Sect.* and fix them together accordingly; bind it close, and Clay it. *Side grafting.*

If it grow at a years end cut off the top of the Stock at the Grafted Place slopewise, and Clay it.

Some done thus grow well, but suffer not the top of the Stock much to overgrow the Cyen the first year before it's cut quite off.

Some use another way, that is, to slit the Bark of the Stock in the form of a great T, and loosning it with the point of a Knife, and then clapping in a Cyen, prepared as hath been said before, (but without the slit for Lipping) bind and Clay it; this can be only used when the Bark will part from the Stock.

Grafting by Approach.

§. 6. There is another way call'd Grafting by Approach, Ablactation, or Enarching, which is by having a Stock or Stocks grow so near another Tree, whose Fruit you would propagate, that the Stock and the Branch of that Tree may be joyned together in the manner following.

Cut the side of the Branch, and of the Stock (where they will meet) about three Inches in length, till you come near the Pith of each, and fit them both together, that the passage of the Sap may joyn, and the green inner side of the Bark of the Stock and Tree; in which posture bind and Clay them: Assoon as you find the Cyen and Stock to be well cemented together, cut off the head of the Stock about four Inches above the binding, and in *March* following, cut off the Stub you left of the Stock, and also the Cyen underneath, close to the Grafted place, that it may subsist by the Stock only.

It is also used to be done by cutting off the head of the Stock at first, and slopeing half off about two Inches long, and joyning the Cyen thereunto, being cut accordingly.

This manner of Grafting is unnecessary, and scarsly practicable in common Fruit-trees, but for Oranges, Lemons, Pomgranats, Vines, Jessamines and such like Shrubs, it may be used. Also it's said that Trees

Trees of different kinds will ſooner take this way than any other.

§. 7. I once ſaw a man Graft half a dozen ſmall Stocks thus; After he had cut off the top of the Stock, he cut it on each ſide from the top aſlope about an Inch and half, directly like a Wedg reverſt, then he clove with his Pen-knife the Graft from the bottom in the middle of the Graft an Inch and half, then he plac'd this Graft on the Stock, one ſide of the Graft on one ſide of the Stock, and the other on the other, but joyn'd Sap to Sap, and then bound and Clayd it; theſe Grafts took well, and it's an eaſy way of Grafting.

§. 8. Some have an Iron Inſtrument made for the purpoſe, which will make a Nick or Notch in the Stock up to it's head, an Inch and half long through the Bark, and ſome depth into the Wood, in form of an v, or rather after this form, V, then fit the Graft, and put it into the Noch, joying Sap to Sap, and bind them together with Baſs, and Clay them. This way is much commended.

CHAP. IV.

Of Inoculating.

§. 1. INoculating is the taking off a Bud from one Tree, and putting it between the Bark and the Wood of another Tree or Stock; the end and intention is the same with other ways of Grafting; and moreover by this way, divers sorts of Fruits, which are not apt to take or grow by ordinary ways of Grafting, are by this easily encreased.

The manner of Inoculating.

§. 2. About a fortnight before or after Midsummer (which is the best time, though it may be done from the beginning of *May* untill *August*) when you have pitcht upon such Stocks as are fit to be Inoculated, to get the Bud from, choose out a strong and well liking Branch, or Shoot of that years growth, upon a Tree that bears exceeding well, and such kind of Fruits as you would by this operation produce, and about the middle, or lower end of it, (for the top will be too tender) fix upon a leaf that hath a fresh and fair Bud growing out betwixt

twixt it and the Bark, and about half an Inch below and above the Bud, cut off the Branch, and ſo you will have a piece of it about an Inch long remaining, with a Bud and Leaf on, this you muſt cleave juſt through the midſt, ſo as the Bud may be directly in the middle of the one half; and then ſnip off a part of the Leaf; and holding it by the remainder, clap it to a ſmooth Straight place on the Stock, and with a Pen-knife ſcore out, on each ſide of it, ſo much of the Stock as it covers, or rather a little broader, (becauſe when the Bark on which the Bud is, is taken off from it's own Wood, and applyed to the Stock, it will cover a wider ſpace of the Stock than it did before) After you have thus marked your Stock, with-draw the Cyen again, and cut the Bark through where you had marked it; then cut the Bark croſs and ſtraight from the uppermoſt end of one ſcore to the upper end of the other, and cut the Bark again croſs and ſtraight from one ſcore to the other, but not ſo low as the Lower ends of the ſcores, by a quarter of an Inch; then take the oblong ſquare piece of Bark, that is cut on every ſide, quite off the Stock, and raiſe up that part of the Bark that remains betwixt the ſide-ſcores at the bottom of the work, from the Wood, till you come to the lower end of the ſide-ſcores.

Take then a Goose-quill, cut in the fashion of an Apple-scoop, or scraper, and having with your Nail a little loosned the upper part of that Bark that is on the Cyen, thrust the Quill betwixt the Bark and the Wood, that it may separate them, and take off with the Bark a little Wood or Root of the Bud over against it: If you see a hole on the inside overagainst the Bud, when you have taken the Bark off, cast it away, that little labour is lost, and try another till you find it otherwise.

Then put in the lower end of that Bark or Cyen betwixt the Bark that was raised on the Stock and the Wood, and so bind it on the Stock gently with Woollen-yarn, or narrow Shreds of Linnen Cloth, or gentle Stuff, or with Basses, or Bast, of which the Russia Matts are made, but so that the Cyen may Lye close to the Wood of the Stock that was made bare, and have an especial care that you hurt not the Bud.

§. 3. There are some other ways of Inoculating used, differing only in the manner of the cut, both in the Bark of the Stock, and of the Cyen.

And first, some proceeding in all other things, as is before directed, cut the Bark out of the whole length of the side-scores, and apply the Cyen to the disbarked place.

§. 4. Others

§. 4. Others cut one slit only down the Bark of the Stock, and another cross the the top of it, like a great T, when this is done, they prepare the Cyen or Bark as before directed (only cutting it sharp pointed at the lower end before they take the Bud off it's Wood) Then raise the Bark of the Stock up on each side the slit, and put in the Cyen, beginning at the top and sliding it downward gently, and let the top of the Bud joyn close to the cross-cut in the upper end, and so bind the Bark gently upon it, but not just upon the Bud: This is the common way used by Gardiners.

§. 5. Others make the cross-cut in the middle of the downright score on the Stock, and li ting up the four corners of the Bark, and making the Cyen sharp at both ends, put it under the Bark of the Stock at both ends, and then bind it; but in doing this, there is danger of hurting the Bud or Cyen.

§. 6. Mr. *Rea* commends the mak ng the cross-cut at the lower end of the downright cut, and having opened the sides, put in the Cyen upwards, being made sharp at the upper end only.

You must be nimble and quick in Inoculating, and preparing the Bud, els the Air by sudden drying the Bud or Cyen and the cut-part of the Stock will much be hurt.

Thus much to ſatisfy the curioſity of ſuch as have a mind to make tryal of every way, but the firſt is eſteemed beſt.

Neceſſary rules and obſervations on Inoculating.

§. 7. Leſt one Bud fail, or any miſchance break it, put two in every Stock, but not directly under one another on the ſame ſide of the Stock. The Branch or Shoot, you cut one Cyen off may yield you ſeveral.

§. 8. About a Month after the Inoculating, or ſooner if you perceive the Bark ſwell where the binding is, cut off the binding.

If it grow it will fix to the Stock, keep it's colour, and that part of the Leaf and Stalk that was left, will drop off, and the Bud appear fair; Then ſometime before the next Spring, cut off the top of the Stock a hands breath above the place it was Inoculated at, and all the ſide-branches that grow any where upon the Stock; and at Spring the Bud will put forth: and if any other Sprouts or Buds appear on the Stock, cut them off.

§. 9. If the firſt Inoculation fail, or the Buds dye, the Stocks may be Inoculated again the next Summer, and of ſuch as are Inoculated timely in the year, it may be ſometimes ſeen whether they grow or not,

time

time enough to Inoculate them again the ſame year.

§. 10. Apricocks will have Buds ready ſooner than other Fruit, ſo that you may begin with them and follow with the other.

§. 11. Stocks raiſed of Peach-ſtones are commonly big enough to be Inoculated the ſecond Summer, ſometimes the Firſt after they are ſet: when they or any other Stocks are an Inch and half in compaſs, or thereabouts, they are big enough to be Inoculated.

§. 12. Thoſe you intend for Wall or Dwarf-trees, are to be Inoculated within a handfull of the ground, and not Pruned at all, till you remove them, and then you will better ſee whats neceſſary to be cut off; and theſe you may remove after one years growth, or two, with more ſafety.

If you Inoculate any Plums, Pears, Cherries, or other Fruit, that you intend for an Orchard, or other place for tall Standards, you may do it higher on the Stocks, *viz.* ſix or ſeven foot high, and Prune theſe up in the Nurſery, and let them grow there, two or three years (according as

they

they grow in hight) before they be removed.

§. 13. After Stocks that are Inoculated have made one or two years growth, you muſt cut off the head of the Stock, that remain'd above the Bud: At your firſt cutting it, cut it cloſe to the new Branches, that it may grow over the cut; let it be cut a little ſlope, and Clay'd over, if you deſire the Branch ſhould quickly cover it; and the ſooner it doth the better.

§. 14. Care muſt be had in chooſing Branches or Shoots from which you are to have your Buds, that they be of Shoots of the ſame years growth you Inoculate; and of ſtrong growth, the Bark firm, and not ſpungy; ſuffer them to fade as little as may be before you uſe them; and the Shoots muſt be got from Trees that your own or others experience can faithfully aſſure you not only to be good Fruit, but very good bearers; and if the Fruit you deſign to raiſe, be at ſuch a diſtance that you cannot have Buds to Inoculate the ſame day they are cut, put them in wet Moſs or Graſs in a Box, and ſo they will keep a day and a night very well. But if by carriage in the Air or otherwiſe they are a little withered, you may revive them by ſetting them in wa-

ter,

ter, which will make the Buds come cleaner from the Wood.

§. 15. Nectarins, Peaches, and Apricocks are ſeldom raiſed otherwiſe than by Inoculation; becauſe they will rarely or never grow by Grafting; but Pears, Cherries, or Plums take and grow full as well by Grafting as Inoculation. The Bark of Cyens taken from ſome Plums, is ſo tender and ſpungy they will often miſcarry when Inoculated: ſuch one be ſure to raiſe rather by Grafting, tho many Plums will hit very well being Inoculated.

Cyens of Apples fail for the moſt part, when you Inoculate Buds of them, becauſe their Bark is tender, and Buds weak.

Cherries and Pears take very ſure being Inoculated on young freſh Stocks, whoſe Bark is not very thick.

§. 16. Upon conſideration of all, I adviſe the Planter to raiſe all his Fruit-trees by Grafting, as being both the ſureſt and eaſieſt way; only his Peaches, Nectarins, and Apricocks can be propagated only by Inoculating; yet where Inoculating ſucceeds well, it's eſteemed and prefer'd before Grafting, for the following reaſons. 1. Becauſe the Stock will be big enough to Inoculate by two or three years ſooner than to Graft, and your Plant groweth much

faſter

faſter after the nature is ſo alter'd than it did before, and will be ſooner ready to tranſplant than if it be ſuffer'd to grow two or three years longer, as it muſt be before it be ready to be Grafted. 2. It makes a ſounder Tree than one that is Grafted, eſpecially in the Cleft; becauſe it covereth the Stock ſpeedily and well. 3. It hurts not the Stock ſo much as Grafting; and if it chance to fail, it may be Inoculated next year again, and ſometimes the ſame year. 4. Some look upon Inoculating to be more ſpeedy, eaſy and delightſome than Grafting, and may be practiſed by Gentlemen, who in *June* may lye on the ground and do it; whereof they cannot ſo well bear the cold without danger of taking hurt in *February*, or *March*, which is the choice of Grafting ſeaſon.

If you do Inoculate any Buds of Pear, Cherry, or Plum, let the Shoots be very ſtrong and large, but you had better Graft them.

§. 17. Not only the Pith, but alſo the Wood of the Bud is caſt away in Inoculating, and nothing made uſe of but the Buds and Bark of any young Shoot, and yet they bring forth the

ſame

same Fruit as the Tree whence they are got.

§. 18. It's debated among Planters what time of the day is best for Inoculating; some persons argue stiffly for the morning; because there passeth up much more Sap or juice in the day-time than in the night, as they observe in piercing the Birch-Tree, and other Trees to get the liquor out of them for Physical uses; and consequently the Bud Inoculated in the morning, must be more likely to grow, having the whole days plenty of Sap to invite it to unite with the Stock, than if it be Inoculated late in the day, and so must be discouraged in it's new habitation by the niggardly provision of the nights Sap. *Time of the day to Inoculate.*

If you follow this advice, you had best wrap some broad Leaves or Fern about the Stock; so as to shade the Cyen from the Scorching heat of the day following, to prevent it's drying before the Stock hath undertaken the charge of preserving it.

But this work may be done in the heat of the day, if the heat be not violent, and then you must (as at all times you ought) be very quick in the doing of it.

And

And for all that hath been ſaid before, the afternoon may be as good a time as any; becauſe if the Bud have leſs liquor afforded it in the night, then the coolneſs of that time makes it leſs thirſty; and as it's thirſt encreaſeth by the heat of the next day, a more plentiful Stream will be very ſeaſonable to ſatisfy it.

CHAP.

CHAP. V.

Of Pruning Fruit-Trees.

§. 1. AFter Grafts have had their full growth the first year, they must be Pruned, such as need it; Those that are Grafted low and yet must be made Standards, or tall Trees, leave only one Shoot, the strongest and biggest, and let not that Shoot begin to spread untill it be seven foot high at least; therefore cut off all the side-branches, till they are grown to the hight you desire. If to spred low, let some be left on each side, that the boughs on any one side may grow straight upright. As for Wall-plants it's no matter of how many Branches they spread, the more the better. Now unless young Grafts put forth a strong and lusty Shoot, Prune not off all the side-branches, lest the body of the Plant be too small and limber to bear his head; therefore if the body be very slender suffer some of the side-twigs to grow, untill the Body be of a sufficient strength to bear the top, and from year to year Prune off those Shoots and Branches as are superfluous,

perfluous, and grow too near one another, interfere, fret and gall each other, and preſerve only ſuch as are fit to make the Tree of a comly form; and ſuffer them not the firſt three years (at leaſt) to grow thick and buſhy-headed, by cutting off ſome of the inſide-ſhoots, and ſuch as grow croſs one another, or pendent.

§. 2. What you cut off the Body, or any Branch, do it cloſe and even, that the Bark may grow over it.

§. 3. If you cut part of any Shoot, or of a Cyen for Grafting, cut it cloſe at a Bud; that the cut may be cover'd with a freſh Sprig, and the wound may again grow up, and a Stub-end not be left behind.

§. 4. At what hight ſoever, or whereſoever you would have the Tree, or any Branch, or Shoot to ſpread, there top it, that is cut off a Bud, an Inch of the very top cloſe at a Bud, and there it will ſpread.

§. 5. When Trees grow big that a Knife will not Prune them, uſe the broad Chiſel (mention'd in *Chap. 1. Sect.* 2.) with which, and a Mallet, you may take off a Bough or large Branch, as you will, without either hurting the Bark of the Tree, by cutting too near, or leaving a Stump, by

by not cutting near enough; one of which is not eaſily avoided by the chance blows of an Ax, or Hatchet, and being amongſt thick boughs your Chiſel and Mallet will be more governable than other Inſtruments; If the boughs are very large you may uſe a Saw firſt, and then ſmooth it with the Chiſel.

§. 6. Trees growing in Orchards, Fields, or Hedges, *&c.* muſt be Pruned from year to year as need is, in *November*, or *December*, by cutting off ſuperfluous Branches and ſuch as croſs one another, and grow too cloſe; leave no dead Twigs or Branches, and ſcrape off the Moſs on the body, or Branches of the Tree.

§. 7. Concerning the Pruning and ordering of Wall-trees, ſee hereafter, *Chap.* 10. And you muſt not Prune thoſe Plants you intend for the Wall, untill tranſplanted and ſet at the Wall.

§. 8. Prune not much and often, if you love Fruit more than a Tree to thrive in Wood; therefore whilſt your Tree is young, bring it unto a handſome ſhape and order, and when it comes to bear Fruit forbear Pruning, unleſs in caſe of broken, or ſuch boughs as grow croſs, or gall, or fret others.

Touching the height of Fruit-trees.

§. 9. And here I must beg leave to thwart and contradict the opinions of all our modern Planters, who applaud the making Trees not to be above an ell high before they spread: Their reasons are these that follow. 1. Because the low Trees sooner attain to be Fruit-bearing Trees, and grow fairer than the tall; the Sap and juice wasting in its long ball and passage, which in the shorter Trees expends it self soon in the Branches. 2. You may Plant more of them in the like quantity of Land, because the shadow of the one Tree doth not reach the ground of the other, as that of the tall Tree doth. 3. The lower and broad spreading Tree is the greater bearer, by reason the blossoms in the Spring are not so obvious to the bitter Blasts, nor the Fruit in the Autumn to the fierce and destructive Winds. 4. Fruits are more easily gather'd from a low than a tall Tree, beating or shaking down Fruit from such Trees being to be rejected by all judicious Cyderists. 5. Any Fruit on a low well spread Tree, is better and fairer than that on a tall Tree, by the same reason that the Tree is fairer, because the Sap is not so much wasted in the low and humble Tree, as in the tall and lofty by its large Trunck.

Notwithstanding these reasons seem plausible, yet experience assures, that a Tree of a reasonable height (I mean not high like Tymber Trees) bears as well as the lower,

er, and if you observe a due distance, which ought to be, the shade will not be injurious; and tho Fruit on a low Tree is easily gathered, yet the other may be with some little pains gathered well enough.

But if you design to use the Land under, or about the Trees you plant, either in Orchard, Field, or Hedg, for the Syth, Spade, or Grasing of Cattle especially, let your Trees be seven foot high at least before they begin to spread, because you can scarce so cautiously preserve them, but Cattle will somtime or other get into your Orchard, and then they will not a little endamage your Fruit-trees, if low, by nipping off the Buds of all boughs within their reach; and if you chance to farm the Orchard, your Tenants in despight of all Covenants to the contrary, will either be negligent, malitious, or so covetous as to permit Cattel to Graze in the Orchard, to your no little damage, which by letting them be seven foot high before they begin to spread, will be infallibly prevented. But where you intend Trees for Table-fruit to he set in the Borders of Gardens or Walks, there you may let them spread within an ell and less of the Earth, as you shall hereafter be more fully instructed.

§. 10. In Pruning Trees be cautious of cutting off the ſmall Sprigs, which are the more apt to bear Fruit, it being too uſual for ignorant Planters, to beautify their Trees, by taking off theſe ſuperfluous branches (as they term them) whereby they deprive themſelves of the Furit.

§. 11. Cherry-trees muſt be Grafted at the hight you would have them ſpread, about ſix or ſeven Foot high, unleſs for the Wall, and then within a Foot of the ground.

§. 12. Prune the Heads of ſome ſort of Trees that have but ſmall Pith as Apple-trees, Pear-trees, *&c.* when you remove them, to proportion the Branch and Root as near as you can; but Cherry-trees, Plum-trees, Walnut-trees, *&c.* that have a large Pith are not to be top't, only ſome of the ſide Branches may be taken away.

If you cut part of any Shoot, or a Cyen for Grafting, cut it cloſe at a Bud or Sprig, and the wound will again grow up, and a Stub-end not left behind.

CHAP.

CHAP. VI.

Touching the Distance of Fruit-Trees.

§. 1. THe distance of Trees in Orchards ought not to be less than eight Yards, neither need it be more than 13, or 14; the richer the Land is, the greater distance you ought to set the Trees at from one another, to which you ought to have respect, and also to the kinds of Fruit-trees you plant; for some Trees take up more room than others, as most Apple-trees more than Pear-trees, and some Apple trees more than others, according to their aptness to grow more or less, too tedious and difficult to be here related; only the Red-streak being Generally a desired Fruit, you may take notice that it's one of the least Apple-trees; where it yields the best Cyder, sometimes it's almost but a Shrub, the Winter Pear-main, Golden-renating, and John-apple, are Trees that spread not much, but the Gregory-pippin, a Fruit-Tree in *Lancashire*, is a mighty spreader, even on course Land, grows well and quickly, and *Distance of Orchard-trees.*

is an excellent Fruit for any uſe, and th Trees great bearers, and the Fruit will eaſily keep untill the following *May*.

Diſtance of Wall-trees.

§. 2 As to the diſtance Wall-fruit-trees are to be ſet at, where they are to grow, you may learn that beſt by conſidering their aptneſs to ſpread; Apricocks and ſome other kinds of Plums ſpread moſt, the *May* Cherry, and ſome others are of a very ſmall growth, it's impoſſible to give Rules for all, but the general diſtance is about four yards aſunder.

Cherry and Codling Hedge diſtances.

§. 3. Of late times it's uſed to make Cherry-hedges in Gardens and Orchards, and Hedges of Codlings, Nurſ-gardens, Plums, and ſuch like Trees that may be kept by cutting and plaiſhing one Branch within another, and from growing very large; theſe are uſually made along the ſide of Walks, or round about a Garden-plot, and are Ornamental to a Garden being ordered and kept handſomly.

Trees for theſe purpoſes are to be ſet about a yard, or an ell aſunder; for they ſhould near meet the firſt year, and ſhould be thus ordered, *viz.* ſtretch a line from one end to the other where the Hedg is to be made, and ſet the Trees ſtraight at the diſtance aforeſaid: Afterwards knock down a Stake betwixt each Tree, then having ſtraight long Rods, or Poles of Aſh, or the like;

like; tye a row of them from one end to the other (about a foot from the ground) fast to the Stakes with Osiers, or such like, or else nail them, which is better, and another row of Rods a foot above them, and so a third if need be, according to the height of the young Plants; Having thus done spread and tye the Branches of the Twigs of the Trees in order to the Poles, but not too hard, and draw and fasten some of them down close to the ground, that so there may be Blossoms and Fruit from the bottom to the top, which will be a beautiful sight in the Spring and Summer: Then after a few years the Stakes and Poles may be taken away, and the Branches platted and woven one within another from year to year, and the superfluous ones cut off.

§. 4. For many respects Trees ought to be planted at a large distance, especially for the following reasons. 1. The Plantation will be little Annoyance to the Land, if either you set Goos-berries, Currens, Rasberries, Straw-berries, or Garden stuff in it; sow Corn on it while the Trees are young, or graze it when they are grown up. 2. Whereas some say the more Trees the more Fruit; that's absolutely false; for when they are set so close, that the Sun cannot have a good influence on them, by refreshing the Roots, Body, Branches, Blossoms and Fruits, they bear poorly, and

Reasons for a large distance in setting Trees.

ripen worſe; and cloſe-ſet Trees in a few years when they ſhould bear Fruits, croud, fret, and gall one another, and by rubbing often cauſe the Canker. 3. They cannot grow to be Trees of that ſize as they would (if the Land be good) being ſet at a good diſtance, and ſome kind of Trees being of ſtronger and ſwifter growth than others, will ſo domineer over their neighbors, that they will make them almoſt good for nothing; and one Tree that is ſet at a fair diſtance will bear oftner, and more Fruit than three, or four Trees ſet cloſe, as is dayly ſeen by ſome Apple-trees that grow ſingle, or in a Hedge. 4. You may Plant betwixt every Tree, a Cherry-tree, Plum-tree, or Codling-tree, which may grow up and bear with the other Trees many years, and never reach or Prejudice them, but will decay before the others are at full growth; Or you may ſet a young Apple-tree, or Pear-tree betwixt every two of your Standards that you ſet in the Orchard, and nurſe it up with neceſſary dreſſing and Pruning ſeven or eight years, or leſs time, to tranſplant into Fields or Paſture-land, where Cattle feed; whereby with little help it will not be in ſuch danger of hurt from Cattel as ſmall ones would, and bear Fruit ſoon after it's ſet, and you cannot ſet them grow ſo long in your Nurſery without galling, fretting, or hurting one

an-

another, unleſs when you remove Trees out of your Nurſery, you take care to leave every other Tree, whereby they may have liberty to grow big, and ſo more fit for your Fields.

As for Standard Cherry-trees, Plum-trees, and the like, ſix yards diſtance is the moſt convenient, unleſs the ground be exceeding rich, and then a greater diſtance, as ſeven or eight yards aſunder.

CHAP.

CHAP. VII.

Choice of Ground for an Orchard, and the ordering it.

SO far as it lyeth in ones power to chooſe a plot of Ground for an Orchard, let it be done with reſpect to the following advantages

§. 1. It ſhould lye conveniently near him, declining and lying open towards the South, South-eaſt, or South-weſt, and defended from the North, North-eaſt, and North-weſt Winds by buildings, Woods, or higher Grounds; the Land ſhould rather incline to dryneſs than moiſture, without Springs, the Soyl deep and a fat Earth, not a ſtiff, cold Clay, or binding Gravel, nor a light, ſandy, esky or hollow Earth; yet with good Husbandry, if it run not into the extreams of any of theſe, Fruit-trees may proſper reaſonably well in it.

§. 2. The

§. 2. The natural Soil for an Orchard is more to be reſpected than a Garden; for the Garden Fruit-trees, and what els groweth there, rooteth little deeper than it may be eaſily manured; but Pear-trees and Apple-trees in Orchards ſhould grow to be large Trees, and therefore ſend forth Roots broad and deep, ſo that it tranſcends all coſt and pains to enrich the Ground for them, as far as the Roots every way reach.

§. 3. But they that are ſeated or fixed in any place, and cannot conveniently change their habitation, muſt be content with their own, and if any defect or diſadvantage be in it, it may be it hath ſome advantage that another wants, if it lye to the North, the Trees Bud and Bloſſom the later, and many times the Fruit thereby ſucceeds the better, and is free from the injurious South-winds in the Autumnal ſeaſon.

§. 4. If it lye to the Eaſt, it hath not only the advantage of being later Budded, and blown, becauſe of the cold Eaſterly Winds in the Spring, but the Fruit ripens the better, the morning Sun in the Summer being by much the beſt, and the Fruits freed from the Weſtern Winds, which with the South are the worſt.

§. 5. If

§. 5. If your Land be on a dry, or rising Ground, you may Plant them the thicker, which will cover and shade the Ground the sooner, and make them bear the better; the Fruit will also yield a more vinous Liquor.

§. 6. If your Ground lye in a cold moist Vale, the sooner may you raise a natural Fence about it, to defend your Trees from cold Winds, and stiff Gusts, which diversly anoy your Trees and Fruits; and I once knew a person that had a cold moist flat springey plot of Ground, who caused double Ditches to be made therein, at ten yards distance, each from other, and about an Ell high; upon these Ditches he planted Apple-trees each ten yards distant from another, which Trees did grow, prosper, and bear exceeding well.

§ 7. But if you have liberty to choose what Land you will for Planting of Fruit-trees, observe the directions given in the first *Section* of this *Chap.* and choose a warm, light Rye-land, or either a black or brown mold, if with a mixture of Sand, so much the better, but the heavy cold and moist Wheat-land is not so good.

§. 8. If

§. 8. If the Ground be very light and rich of it self, or so made by improvement, several sorts of Apple-trees, especially the Pippin, will be so apt to canker, that they will scarce ever be large Trees; therefore a firm and strong Land, is best for Winter or long lasting Fruit; but for Summer-fruit; Land cannot be too light; the more it inclines to redness the better.

How to qualify the Ground.

§. 9. If the Land you intend for it be a Turf or Green-sward, you ought to Plow it two years before you set your Trees in it, to make it mellow and loose, that the Trees may the better take Root, and you may then lay on Manure, which by Plowing will be well mixt with the natural Soil, and use such Manure as will best suit to amend it; and if you sow the Ground about ten days after the Midsummur before you Plant, with Turneps, and when they are got off, which will be about *November*, if you please, then set your Trees, they will like well.

§. 10. Where the natural Soil is not good of it self, whether it be in Garden, Orchard, or Field, there it ought to be by skill assisted and better'd, at least wise for such a compass as the Roots of every Tree take up for some time, if not so far round as they are ever like to extend themselves.

And

And this must be done by mixing such Manures with the Soil as suit best with it's temper. If the Soil be Clay, or Clay mixed with Gravel or wet heavy Land, hot Dung, as that of Horses, or Poultry, or for want of that, of Oxen or Cows is best to mix with it, to bring it to a due temperament.

And if the Soil be light, hollow, esky, or sandy Land; Marl, Mud out of a Pond, Ditch, or River, or shovelings of Dirty yards or Highways, if they be not Sandy, and be well Mellowed, by lying on heaps, and especially if those heaps are mixed with Lime, are proper to mend it.

If this last Soil be barren likewise, you may properly add a mixture of Neats Dung.

It hath been seen that an Apple-tree on a Hemp-but, which was constantly Plowed, and Manured to a great richness, bore more Apples than four such Trees in an Orchard would do; and it's constantly seen in Barren hungry Land, Trees thrive poorly, grow Mossey, or Bark-bound, bearing seldom, and that a poor Fruit: Only Walnut-trees and Pear-trees do not necessarily require a very rich Ground, and will prosper best on Stony, and light Land.

If your Land be too rich (which is seldom seen) you may mix Coal-ashes with it.

§. 11. If

§. 11. If your Land is very flat, that wet is apt to stand upon it, or be a shallow Soil, you may somthing help it in Plowing, also by gathering the Land always up in and near the place where you intend the Rows of Trees shall afterwards stand, which in two years time will somthing raise it, and thicken the Soil, and the Furrows so made will help to carry off the Water, or which is better, raise the Land on broad Ridges, that the middle of them may be about 24, or 30 Foot distance, according as you intend to Plant your Trees: Let the Intervals between the Ridges be about eight Foot broad, and the Earth taken up between, about a Foot deep, and cast on the Ridges which will make the Ground thicker of the best Soil than before it was, that the Roots of the Trees you Plant on the Ridges cannot run down, nor spread into the bad Soil, which otherwise it would do; by this means the Trees will thrive and prosper well, as may be perceived on the Banks of some Land, and the Hedges, that Apple-trees will thrive better there than on the Level-land. *Moist Land to order.*

§. 12. If it be a Springey moist or spewy Land, you must Trench it at the head of the Spring, and that deeper than the chanel of the Spring runs in the Earth, which you may leave open, and yearly cleanse, or fill it up with Alder or Oler-boughs, and cover *Moist Land to order.*

cover them with the Turf and Earth that came forth, much higher than the other Land; for the Wood and looſe Earth will ſink very much by degrees; or you may dig ſeveral narrow Trenches, one between each Row of Trees, deſcending to ſome Ditch at the lower end of your Ground, and lay in the bottom of it Alder-frith, or Faggots of Beech, and fill the Trenches again on the ſaid Frith or Faggots with Earth, as aforeſaid, and the Water will inſinuatingly paſs through the ſaid Wood to the lower ſide of the Ground, leaving the reſt dryer; but if you cannot eaſily do this, order it as at the foregoing *Section.*

§. 13. If it be Springey, but only lye ſo low and flat that in the Winter Rain or Land-floods will lye upon it, and that it hath been lately Plowed, or that you'l not loſe two years time by Plowing it before you ſet your Trees, or if it be ſhallow or ebb Soil, you may ſet your Trees by Tumping.

Hot dry Land to order.

§. 14. If your Ground be a hot dry Sandy ſhallow Land, Marl laid on the ſurface and there ſpread, will cool, ſadden, and make it rich; or if you can, cauſe the Current of ſome Rill of Water, or rather Water that runs from Pools, Ponds, or Dunghills, to over flow it ſomtimes, which will not

not only moisten, but make the Ground fertile also, and the Trees prosper well.

Fern or any other vegetables, nay Stones covering such Land, will preserve it cool and moist.

§. 15. Gravel-grounds are as bad as any; because a Tree in them cannot Root to any great bigness; and if Muck, or other Soils be laid to the Roots of Trees in such Land, the Gravel will in a few years eat it up, and convert it unto it's own nature; but if a little Stony, a mixture of Mold among the Stones, and at the digging to pick out the largest Stones, then Trees will Root indifferent well in such Grounds. *Gravelly-ground to order.*

§. 16. If Land be subject to be over-flown by the inundation of Rivers, or other falls of Water, so as the Water stand not too long upon it, nor the Land be of a stiff cold nature, it's very good for Fruit-trees. *Over-flown Land.*

§. 17. If there be any unevenness in the Land, some direct to level it, by carrying the Banks into the low places; but this will not only be very chargeable, but hurtful, by making the high places too barren, and the low Ground too rich. *Of uneven Ground.*

But that your Trees may grow somewhat level in their tops, and not one overshade another, and also appear comly, you may fore-cast to set such Trees as grow

dant, or are not apt to grow tall Trees, on the higheſt Ground, and ſuch as are aſpiring in the lower places.

The Fence and Order of Trees in an Orchard,

§. 18. Encloſe your Orchard with a good double Ditch about four Foot high, and plant thereon two Rows of good Hawthorn, or Whitethorn, which will be an excellent Fence by the time that the Fruit-trees bear, to keep out Cattel from cropping the tender Twigs of the Fruit-trees, and rubing againſt their Stems, and unruly People from deſtroying the Fruit. Good Whitethorn being the beſt Quick-fence for your Orchard, when it's grown up may be plaiſhed, the better to prevent Hogs or Sheep for creeping into it. Set no ſmooth Quick in it, that may grow to great Trees, becauſe they will be hurtful both to the Hedg and Fruit-trees, both by their tops and Roots when they are grown up: Having ſet two Rows of good Hawthorn, and made the dead Hedg on the out-ſide the Ditch, the Quick-ſet will grow the faſter, for the dead Hedg upon the Ditch is apt to choak the Quick-ſets, and thus with ſomtimes Weeding it you may ſoon raiſe a good Fence.

If you have an old Hedg already about your Orchard, ſcour the Ditch and plaiſh the Hedg, and cut down all big Trees that grow in it, unleſs on the North, and Weſt-ſide, the one requiring a defence to keep the

the Orchard warm, the other to secure it somwhat from the strong Winds, that blow down the Fruit before it's ripe, tho it's far better they grow on the outside the Hedg.

On the outside of your Orchard, not too near the Hedg, if it be not well defended by Hills, Buildings, or the like; Plant on the North-side, two or three Rows of Walnut-trees, thicker than is usually done on other accounts, to preserve the Orchard from the cold Nothern Air.

Some are also for Planting a Defence on the West-side, to protect them from the brisk Autumnal Winds, which blow down the Fruit before ripe.

Within the Orchard on the North-side, set the first Rows of Pear-trees, or such other Trees as you know are apt to grow tallest, and the rest South-ward, as they decrease in hight, as near as you can judge; for so shall all your Trees share in great measure of the South-sun, and will be less lyable to receive damage by the Northern old: The best way you can set Trees in an Orchard is according to the Figure call'd a Quincunx, by Planting them at an equal distance every way, only with this observation, that every Tree of the second Row may stand against the middle of the space of the First; in the Third against the space of the Second; and so through out, which makes an

Orchard appear pleaſant to the Eye in what part ſoever thereof you ſtand.

Baring the Roots of Trees in Winter.

§. 19. If your Soil be not rich enough, once in three or four years in the Winter-time, open the Earth for a good ſpace round about the body of each Tree, and about a Month after with ſome proper Manure mixt with what came forth, fill up the hole again; but if you dig or Plow your Land, you will have no need to do this ſo long; and if your Trees were ſet by tumping, you need not do this, till the Roots are grown paſt the Ditch that was made about the Tump.

Muck-water good for the Roots of Fruit-trees.

§. 20. The Water that ſoaks from a Dunghil, is an excellent thing to enrich the Earth about the Roots of Trees, and if your Orchard chance to lie ſo as that it may be floted ſomtimes, you may do it after this manner.

Make a little Trench along the upper part of the Orchard, and from it cut a ſmall Gutter down every row of Trees, take off the upper Turf for half a yards breadth round about every Tree, at about a Foots breadth diſtance from the body, when a rainy day comes, let this ſoke down one Row, ſo that (as near as you can) every Tree may enjoy it three or four days at ſeveral times in one Winter

If

If your Orchard ſtand ſo that you cannot convey this Water to the Trees after this manner, you may carry two or three pale-full to every Tree twice or thrice a year, and pour it in where the Roots were opened, and againſt Spring put in the Earth again; when you do this firſt, ſtir up with ſomthing the bottom of this Water the more to thicken and enrich it.

This will follow the Roots and more enrich the Trees than can be done by Manure, or Dung, ſo that you ſuffer the Water not to be above a days time at once upon any one Tree.

§. 21. Some judgment is required from the Planter in ſetting each Tree or Plant in the proper Clymate and Soil it moſt delights in, or in adapting Plants to the Nature of each Soil you have to Plant; for Trees will ſtrangly proſper, grow and bear in Soil and Ground they like, comparatively to what they will do if they are Planted in Ground wherein they delight not. *Plant Fruit proper for the Soil and Clymate.*

The Apple it ſelf, which is but one kind of Fruit, yet are there ſeveral ſorts of them, that delight in ſome places, and will not thrive in another, which made the Kentiſhmen ſo addict themſelves to the Planting of the Pippin and Codling; becauſe no other Apple would proſper ſo

well in that County, whence they are call'd Kentish-pippin and Codlin; when in some other places neither of those Fruits will prosper without Art, but are destroyed by that pernicious disease the Canker.

The Red-streak also is observed to prosper better and yield a better juice in some places than in others, altho but in the next Parish, so Summer-pears will thrive where the Winter will not.

Therefore consider what Species of Fruits are most natural to the Country or place where you intend to raise your Trees, which may be known partly by the growth and well bearing of Trees in the Neighborhood, or by experimenting variety of sorts in your own Ground, then propagate and Plant those that grow, prosper, and bear best.

Plant not Standards too near your Houses or Walls.

§. 22. When you Plant an Orchard, or any Ranges of Trees near your House or Walls, Plant them at such a distance from your Houses or Walls, as that when they are grown up to any considerable magnitudes, they may not over-hang your Wall-trees, or hinder the Sun too much from coming to them, whereby your Fruit is much better in every respect.

CHAP.

CHAP. VIII.

The time most proper for Transplanting of Fruit-Trees.

§. 1. STone-fruit will be first ready to remove; for after two years growth in the Seed-plot or Nursery after they are Inoculated or Grafted, you may well remove them, be they for Wall or Dwarfs, which you ought to do in *October* or *November*, early removing being advantagious for all Fruit-trees, both for the security of their growing and their well-growing. The best time to transplant into Orchards is from the end of *September* to the end of *November*, tho you may do it untill the end of *February*, but that's not so good by far, for the sooner after Michaelmas the better; if the leaves are not all fallen when you remove the Trees, pick them off. *Time for removing*

You may begin sooner to Plant well-grown Trees, than those that are very young, and in a very thriving condition, especially young Apple-trees, and Peaches, whose Stocks were raised of the Stone or Kernel, which will be

in a growing posture untill extream weather put them to a stand; therefore for such stay untill about the middle of *November*.

Young Trees having been taken up about *November*, and the end of the Roots cut off, like unto a Hind or Goats foot on the under-side, and laid in the Earth till *March* to be Planted, being then taken forth again, it hath appeared that they have put out many Fibrous Roots at the ends of those big Roots cut off, which had they done in the place they were to grow in the next Summer, this would have been a good preparation against Spring; and it's always seen that Trees set in *February*, or *March* make generally a much less growth the next year, than those that were set before Winter. If a dry Summer happen to succeed, it often kills some of the late-set Trees, and puts such a Sap to others that they recover not of many years.

In sharp Frosts, or in Snows, though you could dig, it's not good to remove Trees.

How to Prune and order Trees at removal.

§. 2. If your Trees for Standards at setting are not very weak bodied, Prune them up, leaving three or four of the principal Branches on the top, that grow outward, which should be lop't off almost a years growth but if they be weak (lest the Winds should injure them by tossing them) you may

may top them lower, doing it at a Bud or small Twigg, and in big Trees cut the top almost all off; and whensoever you transplant young Trees cut off the end of all big Roots on the under-side, like unto a Hinds Foot, and they'l put forth new Roots the better.

Bigness of Trees to be removed.

§. 3. At three years end after Grafting in the Nursery, Trees may be fit to be removed into an Orchard, especially if you Plow (or which is safer, dig) the Orchard-Land, and set Beans or other Kitchin-Garden stuff in it for some years; but if it be such a piece of Land that you Graze, then you must be sure their heads are grown out of the reach of Cattle before you set them there, and you must Fence them one of the ways mentioned hereafter.

How to remove a large Tree,

§. 4. It's the best way to remove Trees very young, as at three years growth, if they may be secured from danger, which in Orchards or Fields where Cattle have liberty to feed, they cannot well be with ordinary Fencing, unless they be of five or six years growth after Grafting. He that hath a Nursery of his own, and removes them into places, so near that he can well do it, let him the very same or the next day after they are taken up, set them in the place appointed for them, and not cut off too much of the Roots, but the greatest

greateſt part of the Top; and he may do well to Plant ſtrong and well grown Trees eſpecially, in his Fields, and out-grounds; for the charge of Fencing will be much eaſed, and being carefully ſet, they may proſper as well or better than ſmall ones, eſpecially in uncultivated or ſtiff Land by nature, where young Trees cannot ſo well put forth Roots; and the following way is better to have old Trees grows and proſper well than is commonly practiſed, *viz.*

If you chance to have any Trees betwixt Ten and Thirty years old that you have a mind to remove, you muſt about *November*, the year before you Tranſplant them, dig a Trench as narrow as you pleaſe, but ſo deep as to meet with moſt of the ſpreading Roots at ſuch a diſtance round about the body of the Tree as you would cut the Roots off at when you remove it, (about half a yard diſtant from the body may do well, if they be not very large Trees, but if you have not far to carry them, longer) as you make the Trench cut the Roots you meet with clear off, and ſmooth without ſplitting them, or bruiſing the Bark; fill up the Trench again, and by *October* next after, when you take up the Tree to ſet it elſewhere, you will find thoſe great Roots will have put forth many fibrous Roots, and made preparation for more, with freſh and tender

tender Roots, upon removal will enable the Tree to draw more nourishment than otherwise it would, and consequently to prosper better in it's new mansion.

§. 5. Many of those Trees removed very timely, as in the end of *September*, or in *October*, may shrink and seem to wither much, yet they will recover and come to their former plumpness.

CHAP.

CHAP. IX.

Of the manner of removing and ſetting Trees.

Coaſting Trees.

§. 1. IN removing any big Tree, men generally obſerve to Coaſt them, that is, to place the ſame ſide of the Tree to the South-Eaſt, *&c.* as grew formerly that way where it ſtood before; to which end before you remove it, you had beſt make ſome mark in the Bark of the Tree which way it ſtood, this you may obſerve in ſtraight Trees, but it's more material if your Trees lean one way more than another, to ſet the leaning ſide towards the South-weſt, from whence the ſtrongeſt Winds blow; but notwithſtanding this obſervation, you need not mind it in ſmall Trees, or ſuch that have grown in cloſe-Nurſeries; they not being capable of any conſiderable alteration from any Aſpect of the Heavens.

In caſe a Tree before removal hath the benefit of the Eaſt, or Weſt Sun, more than of the South, then Plant that Tree that before had that advantage, on the like

again

again in it's new place, which altho it vary from the directions aforesaid, yet not from the reason of it.

§. 2. Be carefull in taking up the Plants; dig round about them, and take off the Mold from their Roots; if it be a small Plant, it may be drawn up easily, the Mold being taken away, if it be great, and the Roots spread much, then they may be cut about half a yard from the body of the Plant, and the greater it is, the further off cut the Roots, and so draw it up; but keep the Spade from coming too near the Tree, by surrounding the Tree at a good distance, and endeavour to raise as much Earth as you can with the Tree, but if it be to carry far, shake it off; then pick off all the Leaves, if they be not fallen off, because the Sun and Air by their means extract the Sap out of the Branches. *How to take up Trees to be Transplanted.*

Pear-trees have ordinarily more brittle Roots than Apple-trees, and the Roots of Apple-trees, or Stocks, raised of the Kernels of good Fruit, are more brittel than those raised of Crab or wilding Kernels; therefore take more care and pains in opening Ground deeper and wider, when you take up the more tender and brittle Rooted Plants, and pull not over hard, lest you leave most of the Roots behind.

§. 3. Young

Young Trees best to set.

§. 3. Young Trees of three or four years old at moſt when removed, do not only grow ſurer, but make a larger growth at firſt Planting, than greater and elder Trees can do, and are therefore beſt to tarnſplant.

§. 4. If your Trees have lain ſome time out of the Ground, or been carried in the Wind or Froſts, that their Roots ſeem to be dry, ſet them over night in Water, immerging only the Roots, and it will very much revive them; or when you Plant them, after you have added an indifferent quantity of Earth, caſt in a Pail or more of Water as the largneſs of the Foſs or hole requires, which not only quickens the Roots, but makes the Earth adhere thereunto, which otherwiſe would lye light and hollow about them. The Air does much incommode the Root of any Plant whatever, and ſo does Froſt.

How to order Trees for Carrying.

§. 5. One may Carry young Trees many Miles to be tranſplanted; being carefully taken up, lay the Roots all one way, the ſmalleſt and tendereſt in the middle of the Bundle, and bind them cloſe from the Roots to their tops with a ſoft band, and then ſtuff the Roots round about with Straw, Hay, Moſs and the like; afterwards bind the bundle all over from the Roots to the very top with Hay, or Straw-bands, or ſome-

something els, to preserve them from bruising, and wrap something abouts the Roots, a piece of an old Sackcloth, or any thing that will preserve the Roots from the Wind, Sun, and from bruising: And in Winter you may carry young Trees thus many Hundred Miles.

§. 6. *See Chap.* 8. *Sect*, 2.

§. 7. It must always be observed that upon every removal of Fruit-trees, to Plant or set them again into as good or better Soil as that out of which they were taken. *Set upon ev'ry Removal in a better Soil.*

But if that cannot be, then Plant, and set them for so far as the Roots may extend in three or four years growth in as good or better Mold than that out of which they were removed, by laying good Soils under, upon, and about the Roots at the setting; for after they have taken Root two or three years, they will then grow in ordinary Soils; the great danger is at first Planting, which is the reason Trees prosper abundantly better taken out of course and barren Nurseries, than out of those whose Soils are very rich, either by nature, or improvement: therefore be sure to lay as good or better Soil upon, under, and about the Roots when they are set again, if you expect your Trees prosper.

§. 8. Take

Set not Trees deep but shallow.

§. 8. Take heed of setting the Roots of your Plants too deep below the good Soil, for if set shallow they prosper far better, than such as are set deep; because in the top of the Earth is the best Mold, so made by the Suns influence thereon, and every shower of Rain reaches, and refreshes, and feeds the Roots: for all may easily observe Trees thrive best where the Roots run near the Surface, and not at all where Planted deep; because by deep Planting they thrust down their Roots below the good Soil into that which is barren and unfruitful; which causes your Trees to be injured by Canker, Moss, and to be bad bearers, and ill thrivers.

Prune the Branches and Roots at removal.

§ 9. Cut away many of the Branches of all large Trees you set, because every removal is a check to nature, and their growth, and the Roots being cut, yield for some years but a faint nutriment, scarce sufficient to preserve life, much less to make a large growth: But Plants of a lesser size need not have their Branches cut, unless they cross one another, grow too nigh together, or run up too high without spreading, but cut off the ends of all the Roots; because if cut, many small Fibra's or strings shoot out of the cut place, which draw nourishment for the Plant, which without cutting would not.

See before Sect. *the second*, *in* Chap. 8.

§. 10. Make a hole about one yard square and two Foot deep; but if your Soil be wet, or binding Gravel, or such like, very bad in the bottom, go not so deep, it will be better to set them shallow, and raise the Earth about them; And if not manur'd Land you set them in, have in readiness some very fine rich Mold, or shovelings of a Yard where Cattle are frequently lodged or fed, or well temper'd Street-dirt, or the Mold of rotten Vegetables, or the Sediments of Currents that settle in the bottoms of Pools, or Ditches, that have lain long on heaps, till the same are become mellow and dry; especially if some Lime be at casting out mixt therewith, or rotten Neats-dung, which you may mix with the Earth that came forth of the hole; and so order it, that it may be as good or better than that out of which the Trees came; Fill the hole full half way up with this, and tread it down in such form (having respect to the Roots of the Tree that is to be set in it) that the Roots may rest close upon it, then cut off the ends of all the Roots like unto a Deers foot on the underside, they'l put forth new Rosts the better, (if the Tree have one long down-right Root (call'd the Tap, or Heart-root) cut it almost half off) then clay *How to set Trees.*

your Tree in, and fill up the hole with the Mold, by caſting in the ſmalleſt and beſt next to the Roots, and be careful that all the ſmall Mold run between all the Roots; to that end, ſtir and ſhake the Plant, that there may not be any hollow place where the Mold falls not, and with your hand, draw up the uppermoſt Roots, and part them that they may ſpread in the Mold every way; Fill up the hole with the Mold, and uſe all diligence to Place the Roots of your Tree in the ſame poſture they were in before you removed it. If the Tree be young, and the Roots ſlender, this can be performed no way but by throwing in a little Soil at a time, and then raiſing up with your hands ſuch Roots as are preſſed down by it below their proper ſituation, ſpreading them on the Soil you have caſt in, and then throwing in more, and ordering the Roots as before, ſo continuing to do till you have fill'd up the hole.

Old Trees with ſturdy Roots require not ſo much curioſity, but be ſure that the Mold lye cloſe under, betwixt, and among the Roots.

If the Soil be light, preſs it down gently with your foot; then cover them half a yard about with Straw, Weeds, Litter, Fern, or the like, which will keep the Roots warm all Winter, and moiſt and cool in the following Summer; but if your Ground be

be not very rich, cover the top about the Tree with Dung.

Note that Dung is not good to lay next the Roots of your Trees, unleſs it be converted to Mold by it's long lying and rottenneſs, but Dung is better, being mixed with the Earth laid next the Roots of Trees than alone.

§. 11. Forget not to water all Trees you Plant, either very early or late.

§. 12. Standard-trees Planted in an open place ſhould for a year or two be ſtaked, if they be large Trees in danger to be ſhaken by the Winds; for a Tree at firſt ſetting ſhould not be ſhaken, but after two or three years Rooting, ſhaking is good: If they ſtand in a ſad Earth, not Plowed or digged, knock down a ſtraight Stake cloſe to every Tree, and tye the Plant faſt to it with a Hay-band or other ſoft Band, and be careful to prevent galling or fretting by interpoſing and wrapping the Hay-band once or twice about the Tree before you tye it to the Stake; ſet the Stake leaning towards the Coaſts you expect the greateſt Winds, and let not your Stakes continue above a year and half. *To Stake Trees.*

§. 13. Trees being Planted, it's very good to keep yearly the Ground Digged or Plowed about them for the firſt ſeven *Watering Trees.*

years, which will conduce much to their growth, and preſerve them from Moſs, and other diſeaſes.

If you are enforced to remove a Tree in Summer, take the Earth you digged out of the Foſs or hole you intend to Plant your Tree in, and mix and temper it well with an equal quantity of Cow-dung, and as much water as will make it into a Liquid pap; fill the hole almoſt with this, and let the Root of the Tree gently ſink into it; cover it over with the Mold, and lay ſome Fern or Litter over all, and once a Month water it, and it will grow well.

To help Trees on barren Soil.

§. 14. If your Land be not rich on which your Trees grow, it's exceeding good in *October*, *November*, or *December* to lay on the top of the Earth about them, Lees of Wine, the waſhing of ſtrong-bear Barrels, Blood of Cattle, dead Dogs, or any Carrion, Swines-dung mixed with Earth, once in three or four years, but have a care that you lay not too much, and too often about them, alſo Soap-ſuds, when cold, and Soap-aſhes are alſo good. And if your Trees be grown out of the reach of Cattle, you may ſuffer them to ly amongſt them in the Winter from Michaelmas till *May-day*.

§. 15. Trees

§. 15. Trees of good bearing kinds will uſually bear after they are four or five years old, untill extream old age, unleſs they grow on barren Soil, or ſomtimes they'l not bear whil'ſt they grow very ſtrong, luſtily and vigorouſly, and have too great a ſupply of Sap; but after ſome years they'l then bear well, if they were Grafted of good bearing kinds; but in caſe Trees are Wall-trees and ſhoot exceſſively, and bear not, then abate their overful and rank fertile nouriſhment, by putting in Sand, or any thing that is barren inſtead of the fat Soil, and cut off one or two of the biggeſt Roots from the body, that ſo it may have leſs nouriſhment, and that left will turn to Fruits; and bend downwards alſo the Branches, and faſten them to the Wall with their tops as low as may be, which reſtrains and obſtructs the exceſſive riſing of Sap, which riſing moderately turns to Fruits. But if Trees are naturally bad bearers, there is no other remedy, but Grafting them again with Grafts taken from ſome good bearing kinds, which are known by yearly experience to bear Fruits well and abundantly. *About bad bearing Trees.*

§. 16. When Fruit-trees are grown to extream old Age, and therefore bear little, cut off their heads or big Boughs, not ſtraight over, but aſlope, that Rain and moiſture may not reſt on the top to Rot it. Theſe will put forth many young Shoots *To Graft old Trees.*

next Summer, which may be Grafted the Spring after with good bearing kinds; and these old Bodies having young heads which draw up Sap vigorously, will bear store of Fruits many years after; or you may cut off their heads even and smooth, and put two Grafts in the Cleft, and two in the Rind, and they will soon cover their heads, if you keep well temper'd Clay continually on and about their heads. See *Chap.* 2. *Sect.* 10.

To know the kinds of your Trees.

§. 17. When you Plant Fruit-trees in your Garden, or Walls, or in Orchards, draw the Platform of them in paper, and so set down the name of every Tree according to the place it stands in, which will be both satisfactory and useful at any season of the year, readily to know what kind of Fruit every Tree beareth.

CHAP.

CHAP. X.

Of Planting Wall-fruit.

AS for the Soil, distance, and Stocks for Wall-Trees you are before instructed; It remains only to say something that before has not been touched on concerning them.

§. 1. Make a Trench by the Wall-side you are to set them up to, about two Foot broad, and as deep, and in every place where a Tree is to be set, about a yard square, mingle good old rotten Neats-dung with the Earth, and fill it up near as high as you intend the Borders to be, and when you have filled it up about half full, tread it down; but if you design no Borders, make then only a hole about a yard square; but if your Soil be wet, or binding Gravel, or such like, very bad in the bottom, go not so deep, it will be better to set them shallow, and raise the Earth about them. Try by setting the Tree in the hole which side will stand best to the Wall, and then cut off such Branches as grow directly toward, and fromward the Wall, leaving only *Setting Wall trees.*

only the side-Branches to be nail'd unto it; then clap your Tree in, placing it as far from the Wall as the top will allow, that must be spread upon it, that the Roots may have the more liberty to spread towards the Wall, fill up the hole with the Mold, and observe the Directions given at *Chap. 9. Sect.* 10. and 11. about setting Trees in all other things.

Summer pruning of Wall-trees.

§. 2. Every year it will be necessary to Prune and nail them to the Wall, twice or thrice according as they grow more or less; First in Summer about the end of *June* or middle of *July*. Cut off such as grow directly out-ward close to the body; if you cut a part of any Branch off, do it at a Bud, that the Cut may be cover'd with a fresh Sprig; some must be Cut off, and others spread to the Wall; Cut off those that will not spread to the Wall, and pluck not off the Leaves of the others.

Cutting off the small Branches in Summer, is some check to the Sap, and hinders its excessive rising at that time, which else would spend it self in larg and superfluous Branches, and so rob the Fruit.

Lay none a cross or under one another, but let them spread as the fingers of your hand when expanded.

The Winter Pruning.

§. 3. The Winter Pruning may be done as soon as the Leaves and Fruit are fallen, of

or any time before *February*, except Nectarin's and Peaches, which are apt to dye if Prun'd before the Sap riſe; the beſt time to Prune them is after they Flower.

The Winter Pruning is chiefly for the well ordering of the Branches, that could not be well placed in Summer time, and for the Cutting off great Branches when need is. Preſerve Branches as low, and as near the Ground as may be, and cauſe them to bend and grow ſtraight along the ſides of the Wall both ways, and ſuffer not the biggeſt Branches to riſe ſtraight upward, but nail them down-wards, to furniſh the bottom of the Wall. Be ſure to take off thoſe that grow the ſtraighteſt out, and will not be bowed cloſe to the Wall. And Obſerve to bend down the ſtrongeſt Shoots (that would grow upwards) towards the ſides, otherwiſe they will be apt to run ſtraight upward and not cover the ſpace you deſign for them, and by their Luxurious growth will extreamly rob the ſide-Branches of their nouriſhment; there will Branches enough ſpring out freſh to run upwards out of them, when they are ſo bowed.

Thoſe that ſuffer all the young and larg Shoots, to grow as much as they will all Summer, without Cutting, and then in Winter Cut all or moſt of them quite off from the Trees, and preſerve only the old ſtumps, or biggeſt Branches of the Tree,

do

do commit a great errour; becauſe thereby in the middle part of the Tree, and near the Root, few or no young Branches will be ſeen, whereas they ſhould preſerve all the young Branches to ſpread up againſt the Wall untill it be full of ſmall Boughs, and then ſome young Shoots every year may be Cut off.

Shreads of Woollen Cloath are the beſt things to nail them up with; ſome uſe gentle Leather, or the Cuttings of any old Hat, any of theſe may ſerve the turn.

To renew Old Trees. §. 4. When your Wall-Trees are grown old and full of big Wood, you may in three or four years time renew them, by Cutting out ſome of the biggeſt Stems or Boughs yearly, cutting each Branch off at ſome ſmall twig (if it may be) that either it, or a freſh Branch may grow over the cut place, which muſt be kept cover'd with Clay, and ſo go on yearly till all the big Wood is cut out. Or if you diſlike the kind of Fruit, you may Inoculate or Graft the Boughs with a better ſort of Fruit, but not all in one year, but ſome in one year, and ſome in another.

By either of theſe ways you may renew a decaying Tree, and keep your Wall almoſt ſtill furniſhed, with leſs trouble and charge, or loſs of Time, than by taking up the old one, and Planting a young one in its ſtead.

§. 5. In

§. 5. In furnishing your Walls with Fruit-Trees, Observe always to Plant Peaches and Nectarines up to the Wall that is most Southward; the East-Wall is to be allotted to Apricocks, early Cherries, and the choicest Plums; the West may be set with Pears, Cherries, and Plums. Some of the coursest Pears and Plums, you may set to the North-Wall, both to cover the Wall handsomely, and many years they will bear as well on it, as on Standards; especially if your Wall stand not directly North, but so as to have some considerable benefit of the Sun, Nut-Trees likewise are proper for this Wall, and will prosper well up to it. *Setting Fruit proper for each Wall.*

If your conveniencies will allow it, and you are to build a new Wall, it is much better to have your Garden Walls not stand directly towards the four points, than otherwise, and then the worst Wall will be much better, and the best good enough for your purpose.

As thus, the East-Wall to incline to the South; the South-Wall to the West, the West-Wall to the North; the North to the East; or contrary, but not so well: In the first way the two first Walls will be extraordinary good, and the two later good enough for Ordinary Fruit.

§. 6. In building a new Wall it would be very advantagious to make it with half-Rounds, each semicircle being eight yards round in the inside, and about six yards in the *How to build a new Wall for Fruit-trees.*

the face, or diameter, each taking two Trees; and betwixt every half-Round let there be two Foot breadth of plain and direct Walling, where you may place a Flower-pot on a Pillar two Foot high, or Plant a Vine to run up it, which every Summer, you may let ſpread it ſelf a little into the half-Rounds on each ſide it.

One in a cold Countrey having his Garden-Walls thus made, had his Trees bear Fruit plentifully in ſuch years as his Neighbours generally fail.

In ſome places Walls are thus made for raiſing Melons under, by a pattern and directions from *Italy*.

Grapes ripen delicately on every ſide the Cluſter that grow in a half-Round. By means of theſe Rounds, every Wall will one time of the day or other, have a ſhare of the Sun, and the beſt Walls (by reaſon of ſuch a Reflection, and Collection of the Sun-beams as will be in every Round) will be exceeding hot, and the Trees be more ſecure from Winds.

A Pale is as good for this purpoſe, and in reſpect of Ripening Fruit better than any thing elſe; it can be raiſed up too, if the Pale be made of ſawed Boards, nine or ten Foot high, and exactly joined, that no wind may come through; next to this in goodneſs is a Brick-Wall, and then a Stone-Wall; and the worſt of all that which is made of Tymber and Morter; but in this every

every one cannot be his own chooser, but must comply with what the Countrey he lives in will permit him to do for his best Convenience.

§. 7. Sometime in the Winter after two or three years growth, if the Soil the Roots are to spread into be not rich enough, open the Ground at the outside of the holes you made at setting, as near round about as the Wall will permit; if you find no Roots bare, let it lye open a Month, and then fill it up with the Earth that came forth well mixt with such a Manure as suits with it. *Baring the Roots of Wall-trees.*

CHAP.

CHAP. XI.

Of Trees of low Stature and Growth, commonly call'd Dwarf-Trees.

§. 1. DWarf-Trees have been of late more than ordinarily valued and coveted; becauſe they are of great advantage for Table-Fruit (whether Pears, Apples, Plums, or Cherries) and being but of low Stature may be conveniently Planted for Walks, and in the border of Garden-Walks, without prejudicing any thing elſe about them, and their Fruit will be as well ſecured, and commodious for gathering as the Wall-fruit.

Stocks for Dwarf Pear-trees.

§. 2. Plants for this purpoſe muſt be provided, and prepared ſomewhat differently from thoſe for Orchards, or Fields.

The Quince-tree is generally uſed, and beſt for Stocks for Pears both for Dwarfs and Wall, as well becauſe it may poſſibly ſomewhat meliorate the Pear, as (and that chiefly) becauſe it groweth not to that bigneſs as on a Pear-ſtock it would be apt to do.

§. 3. For

§. 3. For Dwarf Apple-Trees the best Stocks are such as are raised of the Cuttings of other Apple-Trees that will grow by Cuttings, as of the Gennet-Moil, Kentish-Codling and others. *Stocks for Dwarf Apple-trees.*

That these are more proper for Dwarf-trees than Crabstocks appears. 1. Because the Fruit will be rather better'd and not tainted with any asperity or Roughness, as possibly it might be, if Crabstocks were made use of; and one chief design in these Trees is to have choice and delicious Fruit for eating. 2. Apple-Trees that are raised on such Stocks will not grow so big as those on Crabstocks, but are with ease and certainty kept Dwarfs. Mr. *Rea* judging the Paradise-Apple of somewhat slow growth in bringing forward a Cyen, advises to Graff a Paradise on a Crabstock, and the Fruit you would have, on that Paradise, that the Crab might yield plenty of Juice or Sap to the Paradise, and the Paradise retard the growth of the Apple Planted on it, so as to keep it a Dwarf; but besides loss of time the success of this is doubted, because the Crab will put forth strong Roots, and yield plenty of nourishment; for why Apple-Trees raised of Cuttings grow not to be very large Trees, is their putting forth such small Roots, by which means the Tree hath Sap conveyed to it accordingly. 3. By using these Cuttings for Stocks you shall get at least four years time, reckoning from Sowing

Sowing the Crab-Kernel, and the ſetting the Stem or Cutting be duly conſider'd, as by ſetting the Stem in the place you intend the Dwarf-Tree ſhall grow, and ſetting it in good Earth, for then after one years growth, you may Graft it, and you will eaſily diſcern the advantage in point of time.

If it be ſaid Crab-ſtocks ready grown may be made uſe of inſtead of Cuttings, There's readily anſwer'd, they muſt grow two, if not three years after they are ſet before they are fit to Graft, and in reſpect of their large growth will not be fit for Dwarfs.

Some Nurſery-men have made advantage to themſelves by this ſpeedy way of raiſing Trees by Cuttings, but to the diſadvantage of them they put them off to, for Planting in Orchards; becauſe they are never like to make large or long-laſting Trees.

§. 4. The way then to provide Stocks for Apple-Dwarfs is thus;

How to provide Stocks for Apple-Dwarfs.

In *October* from ſuch Trees whoſe Cuttings will grow, take ſuch Stems, or Branches that grow ſtraighteſt, and which (in the place where they ſhall be Grafted) are an Inch or more thick, if they be near two Inches ſo much the better; Cut them off if you can, an hands breadth below ſuch Knots or Burs as are on them (for at thoſe Burs they

they principally put forth their Roots) and cut off the top that they be not above a yard long, (if you cannot get them so long) of Quinces, you must be content with shorter, if they be two foot it may do reasonable well; Cut off also all the side-Branches close to the body, except one small Twig near to the top, for the Sap to vent it self at; set these presently in Beds as your Seed-plants were, or rather if your Garden be laid out, (that you can know the places they shall stand in) set them there.

You need not fear setting these as deep as the length will bear, so that there be of them about a Foot above Ground, because they will shoot out Roots all along, almost to the top of the Ground, and so spread their Roots in the good Soil, and by setting them something deep, they are in less danger of Dying, and this prevents the trouble of covering the Ground about them with Fern or Straw; and by this means likewise they will stand the firmer in the loose Garden-land for Grafting at a years end, and better support a spreading top afterwards.

§. 5. But because its hard to meet with great plenty of such Branches, thus to be cut and set for Stocks, that have Burs or knots on them: Planters have therefore found out a way (which is called Circumposition) to bring these knots or Burs upon *Stocks by Circumposition.*

on Branches, that had them not before, and to mend and improve those that before had them, and the way of it is as followeth.

About the beginning of *February* next before you design to cut these Stems, directly above the place you intend to cut them off at, for above a Foot in length, fasten about them some Earth in an Old Hat, or Boot, or Bag made of some strong Cloth: and in that Earth they will have put forth Roots against the *Octob.* following, when you are to cut them off to set them.

Or (which is a quicker and readier way) you may dawb some wet Earth or Clay about the place, and wrap a Hay-band about it, putting some moist Earth likewise betwixt the rounds of the Band, and then running it about again over the spaces betwixt those first rounds of the Hay-band, and making fast the ends of it.

If the Stem have no Bur, before you go either of these ways to work, then take off here and there a little slice of Bark, about an Inch long round about it, near the middle of the place to be cover'd, as hath been directed.

Some direct that before this application of the Earth, about an Inch breadth of the Bark be taken off round about the part of the Branch, that is to be surrounded with the Earth, that Roots may shoot out in greater quantity, by coming out in the upper skirts of that Circle, as well as in the lower;

lower; but this is but a Crotchet, and grounded (as my Lord *Bacon* and others have observed) upon the opinion of descension of the Sap; whereas indeed there is no such thing; for the whole mass of Sap is always ascending, but in lesser quantity in the Winter; because the Tree is then only to be nourished, and kept alive, to which end a small supply is sufficient, and yet necessary; and in greater plenty in the Summer to furnish the Tree with Leaves, Fruit, and new yearly growth; and the true reason why Leaves and Fruit fall off towards Winter, is not because the Sap returns downward from them, but because the Sap ascends not so vigorously at Winter as in the Summer, by reason of the coldness of the Season, and the Suns small stay on our Horizon, and because they have arrived to their full ripeness, and the Trees fail by degrees to convey up so much Sap as it did in the Summer to them, to produce fresh ones; and therefore consequently that's an idle mistake too, to think that the Sap or Juice in the Winter, is laid up in the Roots, as a Repository, as appears plainly, inasmuch as they are ever found dryer in the Winter than in the Summer, so that upon the whole, this taking the Bark off round the Branch is good for nothing, but to endanger it by intercepting the Juice or Sap, which rises in greatest quantity betwixt the Bark and the Wood;

but if as before was hinted, you take ſome little ſlices of the Bark off round the Branch, here and there, leaving the Bark entire in ſome places, this may by checking the Sap, cauſe it the more abundantly paſs and be converted into Roots.

But to proceed to the buſineſs in hand, you have ſeen the way of preparing Cuttings by Circumpoſition; and though ſome will pretend to raiſe Trees of any kind by the uſe of it, yet it's certain it avails not, but only in ſuch as by a peculiar property are apt to put forth Roots, being cut off and ſet into the Ground, and thoſe generally known and made uſe of this way, are the Kentiſh Codling, the Gennet-Moil, ſome ſorts of ſweet Apples, and Bitter-ſweets, the Quince-tree, the Mulberry-tree, Goosberry-trees, Curran-trees, and the Paradiſe Apple-tree, which laſt is much commended by Mr. *Rea*, for to raiſe Stocks for Dwarf Apple-trees.

To raiſe Stocks by cutting down an old Tree.

§. 6. Another way to raiſe Stocks for Dwarf-trees is, to cut down ſome one Tree of little worth, of ſuch a kind as you want Stocks of, about a Foot or more from the ground: This will make ſome kind of Trees very apt to caſt forth very good Suckers from the old Roots; ſuch as are of two years growth may be tranſplanted; and the ſtump above ground, will alſo put forth abundance of young Shoots: after theſe

these young Shoots have grown out of the Stump one year, cast Mold or Earth about them a good height, so that you cover not the Tops of any of them, where let them grow two years more, and they will be well rooted, then cut them off from the old Stock (which after that may yield fresh ones again) and set the Shoots you take off as before hath been directed about Cuttings.

These will be about three years longer before they be ready to Graft than Cuttings, but will be very good young fresh Stocks, and is a good way to raise Stocks of the Quince-tree for Pears, because Quince-trees generally grow so crooked and irregular, that its difficult to procure any considerable quantity of them by Cuttings.

If they shoot up tall after they are molded, you had best top them at a convenient height; it will make them grow the more in bigness and so be sooner fit to Graft. But if you have a desire to have any of the same kind as the old Tree was, you need not top them.

And by this means if you want Quince-trees, Codlings, *&c.* you may be furnished with plenty, that will make better and handsomer Trees than if you raise them by Cuttings.

§. 7. You may raise Stocks for Dwarf Pear-trees from Suckers of Old Pear-trees (if you cannot conveniently get enough of *Stocks for Dwarf Pear-trees.*

the Quince-tree) for many Pear-trees cast them naturally, which being preserved from Cattle, may be taken up and set in Beds of Earth as you did the Seedlings.

If your Pear-trees yield not Suckers of themselves, you need only cut off the top of some old ill Pear-tree (and Graff it with a better Fruit if you please) and the Roots will cast forth Suckers plentifully, and you may help them by making a small Ditch or Gutter so as to bear some of the Roots about two yards distant from the Tree, or pare off the Grass (if any grow about the Tree) that they may have the more liberty to spring up.

Or in this case you may bare the Roots, and then give a Cut cross some Roots almost to the Heart, and from the cross Cut cleave the Root, raising up the loose part, and put in a little Stone to keep it open; cover it three Inches over with Mold; let this be done if you can, where you find a Bud or Eye on the Root for the Sucker to Shoot out at, and either inoculate the young Shoot in the place where it stands, or remove it to some other place after a years growth, and when you do, cut off with it about a Foot of the old Root; and by this means you may have Suckers from some other Trees, that do not naturally yield them.

§. 8. To

§. 8. To have Stocks for Dwarf Cherries, and Plums, or for such Trees for a Wall, the speediest way, and such as will succeed for that purpose, is by Suckers of the common red Cherry, and any ordinary, or rather white Plum-tree, both which cast up Suckers plentifully. *Stock for Dwarf-Cherry and Plum-trees.*

If the Suckers grow in a place secure from harm, you may inoculate, or Graft them before removal, under their mother Plant, and let them grow there one year after: and thereby you'l gain a years time and more; and choose such Suckers as grow at greatest distance from the old Tree.

§. 9. In Grafting or inoculating Stocks for Dwarf-trees, observe to do it as low as you well can, with two Cyens placed on each Stock, and those longer than in Grafting for large Standards that they may spread from the Ground. *How to order the heads of Dwarf-trees.*

And after they are grown two or three years in the places they are to stand in, to make them spread, and to keep the Boughs outward, you may tye an old Hoop of a Barrel, or some such thing in the midd'st of the Branches, to bear them a good distance one from another; but if one Branch be much stronger, or more inclined to grow upright than the rest, then you

may drive a Stake into the Ground, and tye the ſturdy one down to it.

If you Cut the Bark croſſwiſe in ſeveral places on the inſide of the Branches, when they are placed as you would have them, it will be a means to make them more willing to continue in that order of their own accord, after ſome years growth: If any one Branch ſhoot out much further than the other, cut off its top to keep it even with the reſt, and yearly cut much off, eſpecially new Shoots, that grow directly upwards, after they are grown to that height you deſign them to be of, which may be about a yard and an half.

Trees raiſed of Cuttings.

§. 10. Having directed how to raiſe Kentiſh-Codlings, Gennet-Moils, Quinces, or any that grow of Cuttings for Stocks; there needs no other Rules for raiſing Trees, or Hedges of the ſame kind of Fruit, only you need not cut them ſo ſhort as you do for Stocks.

Codlings Grafted on Crab-ſtocks, and ſet in a Garden or elſewhere will, encreaſe their growth; becauſe Crab-ſtocks have great Roots, and will yield them more plenty of nouriſhment than Roots of their own putting forth, when they are raiſed only of Cuttings. Others

Graft

Graft Gennet-Moils on Crab-ſtocks, and they thrive well, and bear a larger and (ſome think) a better Fruit than thoſe Trees of that kind raiſed by Cuttings: ſome have Grafted ſeveral of them in rough and Woody Grounds, which have grown with very ſtrong Shoots, and cover'd the Stocks very ſoon.

CHAP.

CHAP. XII.

How to Plant in the Fields, with the various advantages thereof.

§. 1. MUltitudes of Fruit-trees may be Planted abroad in the Fields and Hedges of incloſed Grounds, whereof very great profit may be made without any conſiderable damage either to Corn, Hay, or Paſture, and its beſt in this way to Plant the courſer, harder, and long-keeping kinds of Fruits, which will not be meanly ſerviceable to a Family by uſing them either for Baking or Cyder. Theſe Trees being about ſeven Foot high before they begin to ſpread, will be out of the reach of Cattle, and not troubleſome to Workmen about Hay and Corn in Summer-time, if Planted twenty or thirty Yards diſtant one from another, and in Ranks throughout the Field, that the Plow may continue a ſtraight Furrow all along from one end to the other, whereby Corn will grow near the Roots of ſuch Trees almoſt as good as any where in the Field, and Graſs as much or more under Trees as where none are, tho

tho not altogether ſo ſweet, by reaſon of the droppings, yet the multitude of Fruit abundantly compenſates the damage almoſt Ten-fold.

Many Countries in *England* have experienced the benefit of Planting in the Fields, where it hath been of long and general uſage, and in many other Countries Gentlemen have begun already to imitate them, which ſhould much encourage others to follow; for the more there are that Plant, the leſs particular perſons will loſe by Thieves, and where Fruit is in great pleanty, it is found to be more ſlighted by Idle people; and beſides if a man hath ſtore, hee'l not feel the loſs of a little, or it may quit his coſt, to have one to caſt an Eye to them, for a months time near ripening; and further yet Cyder-Apples, Baking-Pears, and Pears for Perry are ſo little grateful to the Taſt (which Pilferers chiefly aim at pleaſing) that he that taſts them once, ſhall ſcarcely find his Teeth water after them a ſecond time. However the benefit of Planting in Fields much outweighs theſe and all other inconveniences; for by this means you may have a double Crop on your Lands, *viz.* Graſs or Corn, and your Fruit, and the Land rather benefitted (as the matter may be ordered) than damaged; One of theſe Trees alſo bears as much Fruit as three of the beſt in a thick-planted Orchard, the benefit whereof

whereof for Sale or uſe in a Family for Baking, or Liquors, or other uſes, is known to be ſo very conſiderable, that it's needleſs to ſay more of it.

Encouragements to Plant Pear-trees in Fields.

§. 2. Becauſe the Planting Pear-trees abroad in Fields is of leſs reputation generally than the Planting other Fruit-trees, to take off the aſperſion, conſider the following ſuggeſtions.

Firſt ſome Pears do not make ſo contemptible a Liquor as Perry is commonly reckon'd, but very ſtrong, and kept two or three years, drinks to admiration, ſo that ſeveral good Palates that have drank of it, have not been able to diſtinguiſh it well from Liquors of more eſteem.

Secondly, Their Fruit is not eatable and ſo in leſs danger of Thieves in your outgrounds than Apples are.

Thirdly, They will grow on barren Land where Apples will not proſper ſo well.

Fourthly, They are Trees of long continuance, and often grow to that bigneſs, and bear ſo plentifully, that one ſingle Tree will bear Fruit enough to make a Hogſhead of Perry, ſometimes two, or three in one year, which would ſave the expence of much Malt, tho the Liquor were but mean.

There are ſeveral ways of Planting in the Fields, all which are here ſet down, that

that every man may use that which suits best with his conveniency and good likeing.

§. 3. If your Land be in tillage, you may set Fruit-trees at thirty Yards distance from one another, throughout the whole Fields, in straight and direct Rows, after the manner of an Orchard, and you may go on with your Plowing with the loss only of about a yard, or four Foot Square of Land about every Tree for twenty years at least, and when they are grown so big, that you think your Corn receives hurt by the shade or droppings of the Trees, if you can turn it to pasture, the Trees will improve most kind of Land, by keeping it warm in the Spring, they will make the Grass come and grow more early, and by Shades in the Summer preserve it from burning; but the Trees being set at such a distance, the Land may continue for any purpose for ever, if you dress or Prune these Trees higher up than any other, that no Boughs may hang in the reach of Cattle, and for convenience of going about them with your Team to any work, and thereby the Air and Rain will have free access to the Grass, or Grain near about them, and the Fruit will be safer from common Pilferers. These need no other fencing than Thorns bound about them, and a Stake driven in the midst to keep them from shaking; because you may receive the profit of the Stubble

How to Plant whole Fields.

Stubble or Fallow without ſuffering any large Cattle to come into the Ground, that will browſe upon them.

How to Plant Walks of Fruit-trees in Fields.

§. 4. Another way of Planting Fruit-trees in Fields is by ſetting Walks of them, running through the midſt, or along the ſides of your Paſture-grounds, where you have a mind to have Walks for ornament, or ſhady; for why Walks of Fruit-trees ſhould not be rather Planted than of Elm, Sycamores, Aſh-trees, *&c.* none can pretend a reaſon, there being ſome ſorts of Fruit-trees that will (and almoſt any kind may be ordered ſo as to) grow very handſome in ſhape, beſides the beauty and ſweet ſmell of the Bloſſoms, and worth of the Fruit.

To prevent damage by Cattle, if you go this way to work in Field Planting, they muſt be well grown before you ſet them, that is, they muſt be of about ſix years growth, and then well fenced, and there are two ways uſed to ſave them harmleſs.

To ſet Trees by Tumping.

1. One much commended is by Tumping them, and it's performed thus, *viz.* ſet your Trees in the place deſigned on the top, or almoſt on the top of the Ground, no deeper than to make it ſtand, tho all the Roots be not cover'd, till the Tump or Mound be raiſed about it; and then take a line about a yard and quarter long, tye the one end of it about the Tree, but ſo

that

that in going round the Tree with the Line strain'd, it may slip about the Tree as you go, fasten the other end to an Iron setter or stick with a sharp point, and as you go round the Tree, mark the Ground; Make then a Ditch on the out-side of the round Score, and lay the Turf handsomly two or three heights, with the Grass-side outward so as to make the work full half a yard, or two Foot high; then cast the Mold out of the Ditch, observing to throw the best of it next the Roots of the Tree, till you have raised it within as high as the Turf; then prick strong Thorns into the Mold, that they may lye upon the Turf, and point outwards a yard over the Turf; as you place the Thorns, put more Turf or fast heavy Earth out of the Ditch upon the ends of them, treading it down the better to fix them, and lay the Earth shelving down from the Turf towards the Tree, that if Rain fall it may soke towards the Roots; if you have any small Thorns, Bryars, Furs, or Gorse, lay it one the top of the work finished, round the Tree and repair all yearly as you see cause, which may be done with small trouble. The following observations will demonstrate the great convenience of setting Fruit-trees this way.

First if your Land be over moist this Ditch will drain all wet from the Roots of the Tree; but if the Land be Clay or such

ſuch that the Water will ſtand in, then when you perceive it (which is very rately) cut ſome little Notch or Trench to let it out.

Secondly, This way of ſetting is commended in dry Land; becauſe the Earth of the Mound will ſecure the Roots from the heat of the Sun, and every ſhower of Rain will much refreſh it, by ſoaking towards the Tree.

Thirdly, You need not bind your Tree to a ſtake which doth often gall and Hurt the Tree, for ſo much Earth about it will keep it ſteady.

Fourthly, If your Land be ſtiff, or ſtrong old Land, the Mound made of it will mellow and improve about the Roots, and alſo by that time the Roots ſpread as far as the Ditch, it will be fill'd up with Mold fallen from the Tump, and with ſticks, Leaves, *&c.* which will be rotten, looſe, and good for Trees to Root in, and by that time they will need little or no defence, if any at all; A few Thorns tyed about the bodies of the Trees, to keep Cattle from rubbing againſt them will be enough.

Fifthly, The Chief benefit of ſetting Trees thus, is, that where the Soil is ſomewhat too moiſt or ſhallow, the Tree being ſet on the top of the Land, will put forth it's Roots plentifully into the Earth caſt up,

up, and thence shoot into the upper Turf and best Land that hath been Plowed and manured before.

Another way of Fencing is, by erecting at a Foot and a half distance one from another, about every Tree three small Posts, (if they be sawed they need be but three Inches square) or you may use Poles, or straight Boughs, either whole, or if big enough; cloven in two, three or four parts, about five Foot above the Ground in height, being driven into the Ground, nail a cross Bar of Wood from each to other, within a Hand's breadth of the tops of the Posts, to which Bar, nail a Pale or two betwixt each two Posts, stuck into the Ground or nail'd to the like Cross Bar within a Foot of the bottom of the Posts; the way of it may be seen now in diverse places, and learn't in a Minute; though what's said here makes it plain enough.

This way is more chargable than Tumping, where Timber is scarce, but much more dureable than it, and absolutely necessary where Deer, or Rabbets, or any thing that peels the Bark off, come into the Land Planted.

§. 5. Another way of Planting in Fields which hath been successfully Practised, is thus; When you scour a Ditch, and cut down or plaish an old Quickset-Hedg, then set a row of Trees within a yard of the Hedg *Planting near Hedges in the Fields.*

on that ſide that is not Ditch't, and Fence them with half-Round Tumps only on the one ſide, for the Hedg will ſecure them on the other, and from the cut or plaiſh't Hedg, you will commonly have Thorns and Bryars enough for the Mounds, to Fence it as hath been before directed; and at the ſame time, or in Summer, draw ſome of the Quickthorns, Hips, or Bryars, from the Hedg in o the Fence, about the Tump which will contribute to the ſtrengthening and preſerving the dead fence you had made about it before; ſo that you may be free from trouble about it for ever after.

There are theſe advantages in this way of Planting, *viz.*

1. The Ditch on the out-ſide the Hedg drains the Ground and makes it healthful and ſound.

2. The Ground near the Hedg is commonly very Rich, as not having been impoveriſhed by Tillage, but improved ſometimes by the often ſcouring of the Ditch, and commonly with the Dung of Cattle, that for ſhelter, Shade or Fodder repair thither.

3. Its not the leaſt hindrance to Plowing or Graſs; for the Hedg when its grown up, uſually beareth out as far as the Tree is ſet in the Field.

4. And this is much better than Planting in the Hedg Row, as many do; for in a

a large top its apter to weaken the Hedg under it, but these being set a little distance from the Hedg, and growing (as they will) with the greatest part of their Heads from it, will not damage it.

5. The Fruit may be gathered with much more ease, than of those that are Planted in the Hedges.

6. They will not be choak't or hurt by the Hedg when its grown up, but be good handsome fair Trees.

You may set these at eight yards distance, or nearer, being but one single Row, and so if but half a Field (as usually it falls out) have the Ditch on the out-side, you may set a considerable number, and find advantage without damage, and with inconsiderable charge, especially if the Ditch stand on the North-side, if you can, therefore choose such Hedges.

This is not to be practised near Hedges that are full of great Wood, or Trees; but if there be but few Trees, its but leaving a vacancy near such Trees, and setting your Fruit-trees against such places, where there grow none in the Hedg.

§. 6. Another way of Planting in Fields is this, if you would Plant without any charge of Fencing, you may do it in your Hedges; these Trees must be well grown and strong, that the Hedg choak them not while they are young: and when you *How to Plant in Hedges in the Fields.*

plaish or cut down a Quick Hedg, observe no certain distance, but as it happens where you find it most free from Quick, set a Tree and inclose the Body in the Hedg, but bind not the Etherings too close about it, lest they gall and fret it, and as it groweth observe what Thorns annoy it, and cut them off.

Planting by the Cuttings of Gennet-Moils, &c.

§. 7. If you have a mind to set any Cuttings of Codlings, Gennet-Moils, or other Apple-trees that grow of Cuttings, they will prosper very well in, or rather near a Hedg; because generally there the Mold is loose and mellow for them to put forth Roots in, and somewhat enrich't by the frequent cleansing of the Ditch; if you Plant them near the Hedg, you must a little Fence them on the one side, as by the third foregoing direction; but the Tumps you raise to set the Thorns in, must not be above a Foot high, for the Cuttings will shoot out their Roots, almost to the top of the Earth about them, and a high Mound falling down by degrees, some of the best Roots may be left bare, or very little Earth upon them.

The way of preparing Plants for this purpose, is by Circumposition, *&c.* as is directed in the 11 *Chap.* of Dwarf-trees.

Make choice of Cuttings or Stems as big as a Mans wrist (if you can) towards the lower end; before you set them, prune them

them out of the reach of Cattle, and leave but little top on them when you set them, neither let them be very long; if the tops be out of the reach of the Cattle its enough.

§. 8. There be some that get long Crab-tree-stocks out of Woods, or else dress some up in their Nurseries to grow tall, and set them in their Fields or Hedges, and at three years standing Graft them, which may do well and is better approved of, because there needs no removal after they are Grafted (which is of great advantage as to make both good-bearing and sound Trees) but some inconvenience there is in this way: the long Stocks out of Woods being commonly very old, their Bark thick, their Roots big, they thrive but indifferently; and those raised in Nurseries will seldom be taper grown, or strong enough to bear a large top well, after they are Grafted so high as they ought, being set in Fields: You will also be longer in raising Stocks to that height, and any considerable strength (as is necessary for this purpose) than in raising Trees, if your Stocks be Grafted young in your Nursery, because they thrive more after Grafting than before; and in both Cases if you Graft them high, the Stocks will be continually putting out sprouts of their own kind below the place they are Grafted at, which will

Planting in Fields by long Crab-tree Stocks.

require frequent cutting off; if you Graft them not very high you will find it difficult to defend them from the nipping of Cattle, and from the Cyens being broke out of the Stocks by ſome caſualties or other, to which they are more expoſed in Fields that lye common to Cattle, than Nurſeries that are incloſed.

Planting in Fields by Grafting old Crab-tree ſtocks.

§. 9. The way moſt uſed in Planting-Countries is by Grafting ſuch Crab-trees as grow in the Hedges or Grounds, and this is the ſpeedieſt way to have Fruit; becauſe the big Trees have Bodies already, and in four or five years time (well ordered) will have good tops to bear; and if you Graft ſmall Stocks in your Ground that have grown of their own accord there, and Fence them, they will ſpeedily bring on Grafts, being ſo well Rooted.

The miſchief of Grafting the bodies of old Trees.

§. 10. Many cut off the tops of old Crab-trees, or Apple-trees, and Graft the body or Trunk, but the Cyens could never cover the Heads of thoſe Stocks, and by that time the top was a little grown up, the body was ready to periſh with rottenneſs. The beſt way for big Crabtrees (or if you would change the kind of any Fruit-trees) is to Graft them in the Boughs, where they are not bigger than a Mans Arm, making uſe of none but thoſe that grow handſome at convenient diſtance one from another

another, cutting off the others smooth and even, close to the Body of the Tree.

To do this, that Winter that you cut or plaish a Hedg, order the Workmen to trim up, but not to lop or top the Crab-trees, unless it be the tops of the Boughs two Foot above the place you intend to Graft them at, and then in *March* following saw off the Heads at proper places and Graft them.

§. 11. Many are for Grafting these in the Cleft; because they think the Cyen hath best hold, and will not be so subject to be broke off, or out, by the Wind, as those Grafted in the Bark; but many times those in the Cleft are broke out by the Wind, neither can you perceive that the Wood of the Cyen in the Cleft did ever cement with the Wood of the Stock, but only on the outside as the others do: And those in the Cleft are not so apt to grow all of them, nor to make so great a growth as those in the Bark, which with a little wariness may be preserved from danger of the Wind, and full as much care must be had about those Grafted in the Cleft, if you will preserve them all from the same prejudice. *Of Grafting old Trees in the Cleft.*

§. 12. You may observe the following difference in Grafting these great Boughs from all the forementioned varieties of *How to Graft old Trees.*

Grafting, and look upon it as a thing well worthy to be taken notice of and obſerved.

When you have prepared the Cyen as you are directed to do when you Graft in the Bark, apply it to the place you deſign to put it in, and ſlit the Bark of the Bough through on both ſides the Cyen cloſe to it, beginning at the top of the Bough, and not carrying the ſlits much above half length of the ſlope of the Cyen, ſeparate that little portion of the Bark between the two ſlits, from the Wood with your Inſtrument, thruſting it a little lower than the ſlits, to let in the Cyen as far as it is ſloped, and then ſtick the Cyen in, having firſt taken off from the edges of the Cyen any unevenneſs (not cutting through the Bark) that all may the better fit together, and you may put in two, three, or four Cyens in every head, having reſpect to the bigneſs of it; or you may in the biggeſt put in two Cyens in the Cleft, and two others in the Bark, doing one of the later on the Weſt-ſide of it, for then the Wind blowing it towards the Head, is not ſo apt to break it out, as if it drove it from the head; bind the heads and Clay them as you heard before, and continue to do ſo yearly till the heads are almoſt covered.

At firſt Claying, ſtick in Feathers or long Eſcures, to prevent Birds lighting on the Cyens.

In *July* following (whether you Graft theſe

these big Stocks in the Cleft or Bark) pick off most of the Leaves of the Cyens, and cut off such sprigs as growing inward will make the head thick, and all stragling out Boughs, that the Wind may not have so much force upon them to break the Branches out of the Stocks.

Cut off also some of the biggest Shoots the Crab-tree puts forth of its own kind; but for the first three years, you must not cut off all, lest the Tree not having liberty to vent all the Sap that cometh up, surfeit and dye, the small Grafts not being able to receive near so much Sap as the old top did the year before.

Thus many Country-men when they take off the head of an old Oak, have sometimes found it dye, and therefore in some Countries, they leave one big Bough to grow for one year to draw up the Sap, (as they term it) whereas it is indeed that the Sap may have liberty to vent it self; for Trees that have a thick Bark, as old Oaks have, when all the small Boughs are cut off, are long in putting forth Branches; and difficultly at last put forth so many as will spend the Sap which comes up the Tree, in some proportion to what it did the year before, when the whole top was on, which Sap being chiefly in the greatest Channel betwixt or near the Bark and out-side of the Body of the Tree, and not being vented, is either dryed or consumed by the heat

heat of the Sun, or putrifies for want of that continual motion that is in it, when it hath vent, that ſeveral Trees dye of this Diſeaſe; and when Trees dye this way the Bark will drop off from the Body of them ſooner by ſome years than otherwiſe.

Hence it is that you may kill a Tree, by lopping off the whole top in the Summer time, or ſo much of it that the remaining Boughs cannot receive all the Sap, but it lyeth choakt up for want of Iſſue.

The ſecond Summer you ought to bind ſome Hay-ropes, about the lower part of the Cyens; there will be no great need of repeating this the third Summer, but if done, it will the more certainly ſecure them from breaking by the Wind.

Thus you may ſecurely and ſpeedily Graft old Trees, that are either bad Bearers, or bear Fruit of bad kinds, and they will in three or four years bear plentifully, if you take care (which you always ought to do upon any Grafting or inoculating) to Graft them with kinds that experience of your ſelf, or others, can faithfully aſſure you to be of very good bearing kinds.

CHAP.

CHAP. XIII.

Of propagating and ordering Vines.

§. 1. THe best Ground for them is a rich dry, light, Sandy Land, inclinable to Stony or Gravel, so it bind not; if it incline much to Brambles it's a sign of apt Ground for this Plant; the richness of the Soil is not altogether so requisite as the heat and dryness thereof; a short Vine full of Knots or Joints is most fruitful, and fittest for our Clymate. The best Dung to Fatten the Earth they grow in, is Horse or Sheeps-dung; make bare the Roots in the beginning of Winter, and throw in plenty of the same Dung most Winters. *Soil proper for Vines.*

§ 2. Next be sure to make choice of such Grapes as are most suitable to the English Soil and Clymate, which is more subject to nipping Frosts and cold blasts than *France* &c. and our Northern Country much worse than the Southern for these Fruits (as well as all other) especially, are better or worse, and bear according to the place they grow in, if they have a proper Soil, be well ordered, *Kinds of Vines to be propagated in England.*

dered, have much Sun, as upon a South-Wall or upon the East-Wall which is best next, the Fruit will be better and sooner ripe. And I have read that the Vine that yields Grapes in the Canaries, of which the Sack is made, was transplanted from the *Rhine* in Germany thither, and that it was no other than the Rhenish-Wine Grape, which agreeing and improving in that Clymate, affords the most delicate Wine, far different from it's parents on the *Rhine*.

The small black Grape, by some call'd the Cluster-Grape, or Currant-Grape, is the first ripe, beares well, the Bunches are small, but the Grapes so thick that you cannot put a pin between them, and is a very pleasant sweet Grape, and as fit for propagation as any. There is another sort so them without Stones.

The next is the Red and White Muskadine, bearing well, large Bunches, and fair Fruit, and ripens in most years against a South-Wall; but the Red is not so good as the White.

The Red and White Frontin'ac, is a Fruit, of a very pleasant haut-gust, where it comes to perfect ripeness, which it scarce does, unless in a hot Summer, and it be Planted against a good South-Wall.

The Black or Red Orleance is a very good Grape, and ripens very well with us.

The

The great Blue-Grape, is very good Fruit, and ripens well with us.

The Canada, or Parſley-Grape, ſo call'd from the Country whence it came, and from the form of it's Leaf, being divided and Jagged like a Parſley Leaf, it's ripe ſomewhat late, but a good Fruit.

The Raiſin-Grape is a large and long Grape, but ripens not well in this Clymate.

The Burlet, is a very large Grape, but ſeldom ripening here.

Grape *de Arbois*, is a very good Grape.

The Burſarobe is an excellent large ſweet White Grape, and in ſome years ripens well, as alſo will the Muſcat.

§. 3. The beſt way of propagating Vines, is in *November*, to Lay a Branch of that years growth into the Earth, under the old Tree, without cutting it off; lay as many Joints, or Buds in the Earth as you can, leaving but one or two out; for it puts forth it's Roots chiefly at the Joints; at a years end, or in the *February* come twelve-month cut it off from the old one, and Plant it where you deſign it ſhould grow; lay it in the Earth in the ſame poſture it lay in before, and alſo lay ſome of the Buds of the new Wood that grow out ſince it was firſt laid down; that it may gain the more Roots, leaving out of the Ground again not above one or two Buds. *The way of propagating Vines by Layers.*

You

Propagating Vines by Suckers and Cuttings.

You may chance to have Suckers of an old Vine which will be ſure to grow. Or you may take Cuttings of Vine-Branches of that years growth, and cut the bottom in ſhape of a Deer's foot on the under ſide, and ſet them in good warm looſe Land, and many will grow; if it be in the place you intend they ſhall always ſtand in, next year lay down a part of that which hath grown out, to Root alſo, or els upon removal lay in the new growth all but a Bud or two, with that part which is already Rooted; if it have made but ſmall growth the firſt year, lay part of the ſecond years growth in the Ground; it will more advantage them by helping them to good Roots, than the loſs of a year or two's growth in the top will amount to.

To help an old Vine.

§. 4. If you have an old Vine that beareth not well, lay down in *February* or *March* ſome of the ſtrongeſt Branches of the foregoing year, (that grow low) in the Mold under the old Tree, without cutting them off, leaving out of the Ground a Bud or two to grow, and your Wall will quickly be furniſhed with new and freſh Branches; ſo that by degrees you may cut off many of the old Branches of the Vine; for tho one Vine may cover abundance of Walling, yet three or four Roots in that compaſs will ſtrengthen it the more to bear.

§. 5. As

§. 5. As Vines stand in more need of Pruning than other Fruit-trees, so great care is to be taken in the performing of it; When you have set your Vine as you have been before directed, so that not above two Buds of it remain above Ground, you are to nail up such Branches as grow forth up to the Wall, till it have over-spread as much Wall as you design for it, suffering not above two Branches to grow from the Ground, and snipping yearly the tops of the Branches a considerable length, as far as they are weak and tender, and also all small poor ones, close to the body, unless the well-liking Branches be but few, and then you may leave the lowest Bud of some of them, to grow forth next year, and this you are to do yearly towards *February*, or the beginning of *January*. *Of Pruning Vines.*

When your Vine comes to bear, you are to use your Knife about it three times in the year.

First at fartheſt in *February*, and the begining thereof you are to prune off part of the foregoing years Shoots where they are too thick, close to the old Wood. As it enriches your Vine to keep it thin of Branches, so you must take care it be well stored with Buds against the Spring following, for it bears Grapes only on the new Shoots of every year; and in cutting off these Branches, you must take care your Wall continue furnished with such Branches as

as may be ſpread upon the Wall regularly and decently, not thick in one place and thin in another, nor croſſing out another. On every Sprig you cut off in this Pruning, where you would have Fruit the ſucceeding year, leave two or three Buds, for out of thoſe Buds, eſpecially the ſecond or third, proceeds the Cluſters; alſo cut off the Branch aſlope on one ſide or under, that the Rain reſt not on the Pith of the remaining part.

Secondly, The next time to take off ſuperfluties from your Vine is about Midſummer, when the Grapes are knit; clip off then the end of the Branches that have Grapes on them, a little above the Grapes, that they may have the more nouriſhment and keep them nail'd to the Wall, as alſo barren Branches where the Wall needs them.

Thirdly, The laſt time of cutting is in *Auguſt*, for then, becauſe Leaves and Branches may be ſo thick, as to keep the Heat of the Sun from the Grapes, which is neceſſary to ripen them, you may pluck off ſome of the Leaves, and cut off ſome of the Branches to open way for the Sun to come to them.

There's on thing to be obſerved in Pruning theſe, peculiar to it, that whereas others are cut at a Bud, the Branches of theſe muſt be cut off near the midſt betwixt two Buds, and that not later in the year than the beginning

ginning of *February*, for afterwards the Sap or Juice will run out, and the Vine will be much weakened by bleeding. You will by that time also see what the Frost of the Winter foregoing hath kill'd, which must be taken all away.

Note. that December and January, are the best times for the Winter Pruning of Vines.

If Frosts come before any Grapes are ripe, defend them in the night time by Tilts or Mats.

§. 6. It's not worth your labour to Plant Vines by Espaliers, or in a Vineyard in *England*; because of the early nipping Frosts which our Clymate is very subject to, which is the reason ti's seldom used, and the usage of people in such cases affords no weak Argument that it's of no advantage; And Grapes seldom or never ripen well in this Isle, without great help of Art and industry, to which purpose take these directions.

Vineyards prosper not in England.

First, To Plant such as ripen sooneſt in the year, that they may have as much of the Summer heat at ripening time as may be.

Secondly, Let the Wall you Plant them against, be a full South, or but a little inclining to the East; or if you have a half round, or corner in a Wall, or the back of a Brick Chimney, or a Kiln-wall, or Barn-wall posited as aforesaid, make use of such places for them.

Vines will prosper and bear well against a high Wall, yet that is not altogether so necessary but that low Walls may serve turn, and the higher may be reserved for such Fruit-trees as will not do well without them. That of a Tarras Walk may do well for Vines, and the Gravel Walk under the Wall mightily encrease the heat about them.

If you Plant any Trees against your dwelling-house Wall, there may be some narrow places between two windows, or the like, where other Fruit-trees have not room to spread: a Vine may grow up there, and above those narrow places enlarge it self where ever it meets with room.

You may also Plant a Vine betwixt every Fruit-tree that groweth against your hottest Walls, and let it spread a little in the Summer time into the Fruit-trees on either side, especially if the Fruit of such Trees use to be early ripe, or that they bear little Fruit, or have not been so long set as to have covered the Wall. And tho such Vines cannot extend themselves to that bigness, as those Planted where they have more room; yet by this means you will make advantage of such portions of your Wall, as otherwise you could have but little benefit from.

Some Vines Shoot forth exceeding large Branches yearly, but bear little; in such cases bare the Roots, and cut off a Master Root,

Root, or two from the Tree, then lay some Sand, Ashes, or any hot barren Soil to the Roots, and it will abate the redundancy of Sap, and conduce to bearing Fruits.

§. 7. Do not pull or cut off your Vine-Leaves in *August*, or *September*, with design of giving access to the Suns heat, thereby to acclerate the maturity of the Fruit, as many frequently use to do, and as is before directed in *Sect.* 5. for on my own experince, such depriving the Grape of it's Leafed shelter from the cool Air, or morning Frosts, hath always proved pernicious and destructive to the Grape; and I have often observed the best Grapes and earliest ripe, to be under the shadow and Protection of some Leaf.

CHAP. XIV.

Of Figs, their kinds, and propagation.

Figs.

Figs are a Fruit that agree with Engliſh Palats and Soils much alike, there being few that affect them. Among the ſeveral ſorts of them, there are two of chiefeſt note among us. The great blew Fig, as large as a Katherine-Pear, and which is moſt common, and bear their Fruit to perfect ripeneſs, if ſet againſt a South-Wall, and ſpread thereon with Nails and Leathers, and Planted on warm Land.

And there is the Dwarf blew Fig, that's ſooner ripe and better taſted than the former, but the Tree and Fruit is leſſer.

Fig-trees ought to be Planted in a very warm place, againſt a Wall defended from the North and North-Eaſt Wind: every old Tree will yield plenty of Suckers fit to raiſe new ones from beginning of *October*, untill Candlemas; or they may beraiſed by Layers, as Vines. Prune them no more than extream neceſſity requires.

CHAP.

CHAP. XV.

Of Walnuts, their kinds and propagation.

§. 1. THere are several sorts of Walnuts, some being larger, others thinner shell'd than the common, but differ so little one from another that Men have not much minded giving them Names; the largest sort is usually call'd the French Wallnut; the best are those of a tender thin shell, of a full Kernel, and of a middle size. *Kinds of Walnuts.*

§. 2. Walnuts are much Planted of late, and are very proper for Walks in Grounds, and a good Fence to shelter Buildings and Orchards; the Fruit is useful, and profitable if you can spare any to sell, or for Oil for Painters, if the Markets should be glutted with them, and the Timber so excellent for Tables, Chairs, Stools, and the Stocking of Guns, *&c.* that it goes off well, and takes a good price. *For what Walnut Trees are good.*

Way of raising Walnuts.

§. 3. They are raiſed by Nuts gathered from the ſame Trees: if you can, let them have their Green Husks on them, for the bitterneſs thereof will defend the Kernels from being eaten by Worms before they ſpring up; but you muſt chiefly reſpect their full ripeneſs, at which time they are apt to ſhed their Husks; you may either ſet them as they come immediately from the Tree, or keep them in the Sand till *March*.

Set them in rich, dry, warm Land, little more than an Inch deep, and when you tranſplant them, ſet them as ſpeedily as you can after taking up, and cut off little of the Roots, but by no means the Sap or heart-Root (as in other Trees) and top them not at all, if you can help it; but if the Tree be ſo tall, crooked, or dead at the top before removal, then you muſt put a Peg, or ſome ſoft Wax into the Pith-Pole, or cover the Cut with Clay, that wet may not get in, and make it dye downward, becauſe theſe Trees have a large Pith; when you do cut off the top, do it if you can, at a ſide-Branch or Sprig, and that will ſpread under the Clay and cover the tops again; you may cut off many ſide-Branches when you tranſplant them.

No Cattle will brouſe or peel them by reaſon of their bitterneſs, ſo that a Fence that will preſerve them from Cattles rubbing it ſufficient.

§. 4. They

§. 4. They will grow in looſe Gravelly, Stoney, or almoſt Rockey Land, and beſt where they are firſt ſet without being removed, to which end you may in ſuch a Hillock as is ſpoken of in Field-Planting (but not ſo broad nor ſo high) ſet three or four Nuts, or more, and about two years after they are grown up, pluck up gently all but one of them, that is likely to make the beſt Tree. *Soil proper for Walnuts.*

CHAP. XVI.

Of Cheſnuts.

THe beſt Cheſnuts among us are thoſe that come from beyond Sea, but of thoſe that grow with us, ſome are larger than others, without any difference worth obſervation.

Cheſnut-trees grow to be very large, and bear good Fruit on a hot dry Land; they are excellent for a defence from Winds, and better then Walnut-trees, but of much ſlower growth; It's not good to top them as ſome do when they tranſplant them.

They are raiſed by ſetting Nuts an Inch and half deep, that come from beyond Sea, at the end of the year; or from good Nuts well ripened in *England*, which you may ſet with the Husks on when they are fallen, or rather kept in Sand till the great Froſts are over: theſe Trees grow beſt likewiſe without being ever removed, ſome

some say that they will grow well being Grafted upon Oaks, Beeech, or Walnut-trees.

The Horse-Chesnut groweth of Layers, and makes delicate Trees for Avenues.

CHAP.

CHAP. XVII.

Of Filbeards.

THere are two ſorts of Filbeards, diſtinguiſht by the colour of the skin of their Kernells, the one being Red, and the other White: There is another ſort, call'd the Filbeard of *Conſtantinople*; the Leaves and Fruit of which, are bigger than either of the former: And there is beſides theſe an excellent large plump Nut, that hath a very good Kernel, the beſt of which have a very thin ſhell.

Filbeards and Hazle-Nuts worthy to be Planted in Orchards or Gardens, are raiſed from Nuts ſet in the Earth or Suckers from the Roots of an old Tree, or may be Grafted on the common Hazle-Nut-Tree.

CHAP.

CHAP XVIII.

Of Quinces their kinds and propagation.

THere is not a more delicate Fruit for the Kitchin and Conſervatory than the Quince, whereof there are ſome ſorts, though not many, ſomwhat different from each other.

The Portugal Apple Quince, is of beſt eſteem, it's a large yellow Fruit, tender, pleaſant, and ſoon boiled.

The Portugal Pear Quince is much like the former, except in it's form.

The Barbary Quince is good, but ſmall.

The Lyons Quince is a large yellow, and the Brunſwick Quince a large white, both good Fruit, but inferior to the two Firſt.

The Engliſh Quince is the moſt Stony, and a harſh Fruit, and covered with a Doun or Cotton.

The way of raiſing Quince-trees is by Suckers, Cuttings, as you are taught in the Eleventh *Chap.* aforegoing; and it's only to be added that if you have a part of a Tree

Tree that groweth ſo low, that you can bring it to the Ground, either by Plaiſhing or otherwiſe, you may do it in the beginning of Winter, and cover it all with Earth but the ends of the Branches, and let it continue ſo one year, and then uncover it, and every Twig will have put forth Roots in the Earth, which being cut off, and tranſplanted will make you a Tree.

How to propagate by Layers.

And this is the way of propagating Fruit-trees by Layers: And you may here take notice, that all ſuch Trees that may be propagated by Cuttings, as Currans, Quince, Goosberries, Raſpberries, Barberries, Figs, Vines, Mulberries, *&c.* may be raiſed likewiſe by Layers, and this way takes more ſure than by Cuttings. Trees generally have large Pith that will grow by Cuttings and Layers.

Quince-trees delight, and bear beſt in a fat, moiſt, rich Land, where ſome Sinck, or Gutter that carries away the ſoke or Waſh of a Dunghil or Houſe, is a place uſually choſen for them, and is ſuch as they like very well in.

Some will Graft or Inoculate Quince-ſtocks, with Grafts or Buds from Quince-trees of good bearing kinds, which will cauſe them to bear more early.

CHAP.

CHAP. XIX.

Of Mulberries.

MUlberries are diſtinguiſhed by their Colours, for there are Black, Red, and White.

The Black Mulberry-tree never fails of Fruit after it's grown up, but the White ſeldom bears well.

They are raiſed by Suckers, Layers, or Cuttings from the Branches or ſides of the Tree.

Theſe following Trees and Shrubs are very apt to grow of Cuttings or Slips, as Codlings, Gennetings, Brets, Gennet-Moils, Quinces, Goosberries, Currans, Figs, Vines, Tamarisk, Honeyſuckles, and Roſes in ſome Grounds. By Laying, almoſt any ſort of Trees or Shrubs will grow, if a little Inciſion be made, as the beforementioned and Mulberries, Cornelions, Lime-trees, Gelder-

Gelder-Roſes, Roſes of all ſorts. The Seaſon for ſetting of Cuttings of Trees to grow, is from the full of the Leaf untill Candlemas. The Seaſon to encreaſe Trees by Laying, is from Michaelmas to the beginning of *March*, and ſomtimes in the Spring or Summer.

CHAP.

CHAP. XX.

Of Medlars, and Service-trees.

THere are three or four ſorts of Medlars, the biggeſt ſort, call'd the great Dutch Medlar without any Thorns upon the Branches, is the beſt, and a good bearer; the common hath Thorns upon the Branches; and there is another ſort without any Stones in the Fruit.

There are two ſorts of Services, one larger than the other, that groweth wild in the Woods, but neither the ſorts of theſe, nor of Medlars, are diſtinguiſhed by names, and the Fruit of both is not eatable till they are rotten.

Medlars are raiſed by Grafting on the Pear-tree, Crab-tree, White-thorn, or Service-tree, the laſt is the beſt, and the White-Thorn by much the worſt.

You

You may get Plants of ſervices out of the Woods, where they grow wild, from which you may raiſe Service-Trees, or Stocks for Medlars; or if you can get none ſuch, Graft the ſervice on the Wickey-Berry Tree, or the White-Thorn.

CHAP.

CHAP. XXI.

Of Goosberries, Currans, Raspberries, and Barberries.

§. 1. GOosberries so call'd from the use that hath a long time been made of them, in the Kitchin when Green Geese are in season. *Goosberries.*

There are some varieties of Goosberries, the best sorts are the Ambes, and great Hedghog Goosberry, which is prickly, but the other smooth, both of a bright Yellow colour, and the great White Holland, or Dutch Goosberry, which is large, transparent, and a great bearer. The great Yellow Dutch Goosberry, differeth from the last only in colour. The great early Red Goosberry is a fine, sharp, pleasant Fruit, and first ripe; there are likewise some that are Blue, differing little from the former, but later ripe, and the Great Green Goosberry late ripe, but good; and there are several small Goosberries not worth Planting or taking notice of.

Currans. §. 2. Currans or Corinths, taking their name from *Corinthia* where first had. The great White Dutch Curran, and the great Red Dutch Curran, are the faireſt, largeſt and beſt, and the great Yellow Dutch Curran differs only in Colour, all others are to be ejected out of your Gardens; the Engliſh and Black Currans not being worth Planting in compariſon with the White and Red Dutch Currans. The great Dark-red Dutch Curran is largeſt, and hath a ſweet reliſh, and ſince it became a Native of our Soil, is much improved, where Planted in rich moiſt Grounds.

Barberries. §. 3. Of Barberries there is the ordinary, or common ſort, and Barberries without Stones, and the great Barberry, which is a ſort bearing bigger Fruit than either of the other.

Rasberries. Of Rasberries there are three ſorts; The Common Wild; The large Red Garden Rasberry, a pleaſant Fruit, and yields a delicate juice; And the White Rasberry little inferior to the Red.

Goosberries, Currans, Rasberries, and Barberries are beſt raiſed by Suckers, of which you may have plenty about the Roots of old Trees. And Goosberries, and Currans may be propagated by Layers, or by Branches, or Shoots cut off and ſet; they are to be ſet four or five Foot diſtant from each other upon Borders, or Beds

Beds of rich moist Land: The season for Planting them is from Michaelmas to Candlemas.

Currans and Rasberries will prosper and like very well in shady places, and the colder the Soil, the better will Rasberries bear and thrive.

Rasberries usually bear the same year they are set, if drought, or too late Planting hinder not; and that which bears this year, dyes after bearing, and what Springs new this year bears the next; Cut no more of them than what will make them a little handsome, and in the Winter cut or break out all the dead Stalks from amongst the living Rasberries.

When Currans, Goosberries, and Barberries have grown some years, suffer not too many Suckers to grow about them, nor cut the tops to a round close Bush, as many Gardiners do, whereby they grow so thick that they neither bear, nor ripen their Fruit so well as if the grew taller and thinner.

All the said Fruits (*viz.* Goosberries, Currans Barberries and Rasberries) like well in shades, tho the Fruits are not of so delicate a taste, as those that grow in the Sun: You ought to keep the Ground a-

bout them free from Weeds, and other Vegetables, and to Dig, and well Manure it each two years at Michaelmas, and yearly with a pair of Sheers about fourteen days before Midſummer dab the tops of Currans and Goosberries and they'll bear better; do the like at Michaelmas.

CHAP.

CHAP. XXII.

Of the kinds of Peaches, and Nectarins.

§. 1. THe Stones of Peaches produce Trees that will bear Peaches, ſomtimes better than the Peaches out of which the Stones were taken, altho thoſe Peaches grew upon a Tree that was Inoculated on a Plum-ſtock: And therefore ſome Gardiners by ſetting many Stones of the Newington-peach, have found ſome amongſt the Trees come up from them, to bear a Fruit rather improved than worſe, and by giving it a new name, and Inoculating from it, have made good gain of it; but this is not a practiſe for every private perſon; becauſe Peach-trees ſo raiſed, will be much longer before they bear Fruit, than thoſe which are Inoculated; and becauſe he muſt run the hazard of filling great part of his Wall with theſe Peach-trees thus raiſed from Stones, and not one it may be, in an hundred prove any thing extraordinary, and the reſt of no uſe, unleſs for Stocks; after he hath waited

several years to see what Fruit they will bear.

§. 2. Of Peaches the first and soonest ripe is the White Nutmeg, next that is the Red Nutmeg, next to that is the Troy, which is ripe almost as soon, and a better Fruit; next ripe are.

The { *Isabella*, *Savoy*, *Early Newington*, *Burdeaux*, *Old Newington*, *Violet Muscat*, *Persian*, *Modena*, *Morello*, *Rumbullian*, *Scarlet*, *Bellice*, *Royal*, *Ricket*, *Bloody Mounsieur*, one of the latest, and Red within and without, and an excellent Fruit. } Peach.

These are accounted excellent kinds of Peaches, and there are many other good sorts besides these, and so there are of Apples, Pears, *&c.* more than are mentioned

oned in this Book, or is neceſſary to trouble the Reader with; ſome choice Fruit of every kind being here nominated, for every one to pleaſe his fancy with, or ſtore himſelf with them or others, as he approves them, or hath convenience ſo to do.

The beſt Nectarines are. *Nectarins.*

The { *Red Roman*, *Murry*, *Tawny*, *Paper White* } Nectarins.

There are others though worſe ſorts as,

The { *Yellow*, *Painted*, *Ruſſet*, *Red* } Nectarines.

The Algier Nectarine is commended by ſome; becauſe it parts eaſily from the Stone.

CHAP. XXIII.

Of the kinds of Apricocks, and Strawberries.

APricock, so tall'd from *Apricus*, delighting in the Sun, is a kind of Plum, but far exceeding others in every respect.

The Algier Apricock is early ripe, and in *June*, it's a small round and Yellow Fruit.

The Masculine Apricock is a better and earlier Fruit than the former, but not so good a bearer.

The Turkey Apricock is much commended, so is the Orange; the white Apricock is accounted better than the Common.

They are to be propagated only by Inoculating upon the White Pear-plum Stock, or White Wheat Plum-stock, or some Plum-stock which is Sappy, of large growth, free, and bears large Leaves, Shoots and Branches.

Strawberries. Strawberries will grow under the shades of more lofty Trees.

The

The common Engliſh Strawberry is much improved by being tranſplanted from the Woods and Hedges into the Garden.

The White Strawberry is more delicate than the former.

The Long Red Strawberry is not altogether ſo good as the former.

The Polonian, or Great Strawberry is the largeſt of all Strawberries and very pleaſant.

The Green or Rasberry Strawberry is the ſweeteſt of all Strawberries and lateſt ripe.

The New *England* or *American* Strawberry is the earlieſt ripe of any Engliſh Fruit, being often ripe at Midmay, and continues bearing till Midſummer. They are the ſmalleſt (except the Polonian,) and of the beſt Scarlet dye of any Fruit that grows, and very pleaſant and cool to the Taſt. They are propegated by ſetting of the young Roots (chiefly in the Spring and Fall) which increaſe from the Strings that run from Elder-Plants, and the Strings muſt be very often cut, and they Weeded.

CHAP.

CHAP. XXIV.

Of the kinds of Plums.

IN Berries the white is commonly more delicate and ſweet in Taſt than the coloured, as is ſeen in white Grapes, white Raſps, white Straw-berries, Currants, *&c.* but in Fruits the white is commonly the meaneſt, as in Plums the white Harveſt Plum is a baſe Plum, the Muſle, Damazeen, and other black Plums are of the beſt, *&c.*

There is great variety of Plums, and they appropriated to ſeveral uſes, they continue longer on the Trees than Cherries, and are a more pleaſing, but not a more wholſome Fruit.

Plums to be preferred before others are as follow, The Red and Blew Primordian, as being firſt ripe, tho not ſo good Fruit as ſeveral of the following.

The

The
- *Morocco*
- *Myrobalan*
- *Violet*
- *Apricock*, a delicate Plum, and parts clean from the Stone.
- *Barbary*
- *Black Damascene*
- *Green Damascene*
- *Prunella*
- *Queen-Mother*, one of the best Plums.
- *Kings*
- *Matchless*
- *Black Pear Plum*
- *Pescod*
- *Catalonia*
- *Bonum Magnumque*, a fair yellowish green Plum.
- *Black Date*
- *Cheston*
- *Marbled*
- *Imperial*, one of the largest of Plums.
- *Nutmeg*
- *Turkey*
- *Prince*, last ripe.

Plum.

These Plums you may set to a Wall, tho most of them will bear well being Dwarfs, or Standards, if you have not Wall enough.

The

The white Pear Plum, Prune, Damſons, and Verdock, are good preſerving Plums.

The { *Muſcle*, one of the beſt *Plums* / *Wheat*. / *Lammas* } Plum.

And Bullice, and Damſons, and ſeveral courſe Plums are raiſed by Suckers, without Grafting or Inoculating, and may be ſet in Orchards, Hedges, or any common places.

The drieſt Plums which part clean from the Stone and are of a black or inclinable to a Black or Red colour, are accounted beſt.

Plums are beſt propagated by Grafting.

CHAP.

CHAP. XXV.

Of the kinds of Cherries.

THe *May* Cherry is first ripe, and should have a good Wall to expedite it's ripening; for tho they are but ordinary Fruit, yet their earliness makes them a rarity: next ripe are.

The Cherry.

- *Duke*
- *Arch-Duke*
- *Flanders*
- *Red-heart*
- *Lukeward*, one of the best of Cherries.
- *Cluster Cherry*, bearing three, four or five usually on a Stalk.
- *Bleeding-heart*
- *Spanish Black*
- *Naples*
- *Carnation*, a delicate Fruit for the Table or conservatory.

Amber

The { *Amber*, the Grater. / *Purple*, one of the beſt and lateſt Cherries and a good bearer. } Cherry.

The great bearing Cherry of *Millain*, and Morella, are Blackiſh when ripe, and Blood Red within, excellent to make Cherry Wine, affording a ſtrong and Vinous Liquor.

These also the Cherry of *Millain*, Morella, Cherry, and Prince Royal Cherry are good to preſerve.

If you have not room upon your Walls, theſe will bear well in any warm place, Planted as Standards.

Thoſe that you find put forth ſmall Twigs, and have a ſmall, dark, Green Leaf, are eaſilieſt kept for Dwarf-trees

CHAP.

CHAP. XXVI.

Of Pears and their kinds.

PEars are of very many kinds, in so much that some have affirm'd that there are no less than four or five hundred several kinds; but however, certain it is there are so many, that to trouble the Reader with their names would be very needless, therefore some of the Choicest for all uses will be most proper for the storing your Plantation, especially if you respect profit more than curiosity, which is the main design of this little Tract.

Pears are much improved, as is most Fruit by being Planted against Walls. In *France* they are accounted among their best Fruit, and the best kinds well merit it.

The Summer and Winter-Bon-Cristien growing pendent are fitter for a Wall, than to be Planted of Standards; the Winter will keep till *May*, and is a very choice Pear.

The Bury de-Roy, is esteemed for the Table the best of all Summer Pears, it's a fair Brown Pear, excellent in it's season, melting

melting in the Mouth, thence call'd the Butter-pear, and bears well against a Wall; the Green Bury-pear, is more Green, and larger than the former.

The { *Violet*, *Dove*, *Great Musk*, *Amadot*, *Rouſſelet*, *Meſſire Jean*, *Great Soveraign*, *Blood*, *Windſor*, *Green-field*, *Dionier*, *Great Burgamot*, *Virgalous*, *Roſeau* one of the beſt of Pears, *Red Katherine* } Pear.

The Double Flowred Pear keeps till *May*, not fit to eat till *March*, theſe do well Planted against a Wall: If you have not Wall room enough, ſuch as grow with ſmall Twigs, or almoſt any Grafted on Quince-ſtocks, may be kept Dwarfs. The Winter and Summer Burgamots may alſo make Dwarfs.

Meet Pears for Standard-Trees in Com-

mon

mon Orchards, are such as follow, both for Summer and Winter-fruit.

The Pear.

- *Hill*
- *Primating*
- *White Geneting*
- *Red Geneting*
- *Green Chissel*
- *Pearl*
- *Soveraign*
- *Orange*
- *Red Katherine* is the best of *Katherines*.
- *Anthony*
- *Sugar*
- *Lyons* a rare Winter Pear for the Table.
- *Pimp*
- *Berry*
- *Popering*
- *Deadmans*
- *Scarlet*
- *Prick*
- *Royal*
- *Nonsuch*
- *Kings*
- *Ladies Buttock*
- *Muscat*
- *Oak*
- *Virgin*
- *Lyons*
- *Ice*

The { *Gascoign Burgamot*, Winter *Popering*, *Little Dogobert*, *Great Kairville*, *Long Burgamot* } Pear.

With divers others, each Country affording variety.

The Slipper, and the Lewis Pear by some call'd the Maiden-heart, is the best off all Pears to dry, and a good bearer.

In Fields you may set Baking Pears, and Perry-Pears for Baking.

The { *Norwich*, *Quince*, *Bishops*, *Arundel*, *Bell*, *Painted* } Pear.

The great Black Pear of *Worcester*, or *Perkinsons* Warden, is to be prefer'd before all other Pears for Baking; the Pears usually weigh twenty ounces, sometimes more, and it bears very well against a Wall. Also Wardens of several sorts are good for Baking.

Pears for Perry are the Red, and White-horse Pear; and there are also divers other wild or Choak-pears, whereof the Red coloured yield the strongest Liquors. The Bosberry,

Bosberry, and the Bareland Pears are by much the best for Perry, yet taken notice off, the Tree that bears the Bosberry-Pear will grow to that Bigness, that it will bear Fruit to make one, two, or three Hogsheads of Perry in one year: their might be much said of it's excellency when it's two or three years old. The Tree will prosper on almost any course Land.

The Turgovian-pear, mentioned by the ingenious Mr. *Evelin* in his *Pomona*, is said to yield the most superlative Perry the World produces, and it were wished the same was more generally propagated.

Pear-trees require not generally a very rich Ground, but will prosper best on Stony, and light Land.

CHAP. XXVII.

Of Apples and their kinds.

§. 1. Apples are seldom Planted against a Wall: therefore it's best to furnish your self with the choicest of these following for Table Fruit, by making them Dwarfs in the Garden, or larger Trees in a secure Orchard, being very tempting Fruit, and some of them early ripe.

The Jeniting is early ripe, and a Fruit off a pleasant tast.

The Margaret or Magdalen is the best and most early, commonly ripe about Saint *Margarets* day in *June*; it's a fair Beautiful Fruit, of a pleasant tast and scent, and not equall'd at that time for the Table, and Kitchin.

King Apple, tho not a Common, yet esteem'd an excellent Fruit, and preferr'd to the Jeneting.

The Aromatick or Golden Russeting Apple hath a Gold colour'd Coat under a Russet hair, with some Warts on it, it's Flesh of a Yellow colour, and form of a flattish Round, not ripe till after Michaelmas, lives over

over the Winter, and the moſt pleaſant taſted Apple that grows, having a delicate Aromatick haut-guſt, and melting in the Mouth.

The Flax Apple a good early Apple.

The Spice Apple in ſome places much valued.

The Summer Queening mixt with others, a good Cyder Apple, being of it ſelf ſweet.

The Go-no-further, or Catſhead-Apple a large Fruit with Red ſides.

The Golden Pippin is ſmaller than the Orange Apple, but like it in colour, taſt, and long keeping, and the Trees are great bearers.

Bontradue, or good Houſwife is the largeſt of Apples, a great bearer, and good for the Kitchin, and makes good Summer Cyder.

The Giant Apple is a large Fruit and well taſted, the beſt of any Summer Apple for Kitchin uſes.

The Pome-Water is an indifferent good laſting Fruit.

The Summer Pearmain is known to be an excellent Fruit, but not ſo good as the Winter Peatmain.

Kirton Pippin or *Holland* Pippin is one of the beſt ſorts of Table-Fruits from Michaelmas to Alhallontide, and yields very good Cyder.

The Orange Apple is of the colour and form of an Orange, hath a fine rough Gold coloured coat, resembling the Golden Pippin, only fairer, is of a very pleasant tast, and will keep long.

Summer Bellabon is a fair Apple, the Tree a good bearer and the Fruit very good, but will not keep any long time.

Russet Pearmain a very pleasant Fruit, continuing long on the Tree, and participates both of the Russet and Pearmain in colour and tast.

The Paradise Apple is a curious Fruit produced by Grafting a Pearmain on a Quince-stock.

The Famagusta is one of the best early Apples.

§. 2. There are also some Apples of great esteem in their respective Countries, as,

The Darling Apple is much valued in *Cheshire*.

The Stocken Apple in *Herefordshire*, tho not known by that name in many places.

The Golden Renating in *Hartfordshire*, a very pleasant and fair Fruit, and it something resembles the Pearmain, the Trees great bearers, but subject to Canker, the Apple keeps well.

The Angles Bit in *Worcestershire*, a delicate tasted Apple,

Kirton

Kirton Pippin in some parts of *Northamtonshire.*

The Harvey Apple in *Cambridgshire*, a choice Fruit, but the Trees no good bearers.

The *Devonshire* Quarrington is a very fine early Apple.

The Bitter-scale in *Devonshire* much esteemed, yielding excellent Cyder without the mixture, or assistance of any other.

The Underleaf in *Herefordshire*, an Apple of a Rhenishwine Flavor, and may be accounted one of the best Cyder Apples.

Deans Apple is well esteemed of in *Devonshire*, on the same account that the Bitter-scale is; and so is the Pleasantine Apple.

§. 3. The subsequent Apples are good Winter Fruit, and such as may be Planted in Orchards. And observe that long lasting and fair Apples, will not only adorn your Table, but yield most profit, either for the family or sale, for one Bushel of good Apples after Christmas may be sold for three times more, than the same Fruit would have taken at Michaelmas; and your long keeping Fruit is of good use and profit untill new come, as well for the Table, and Kitchin, as Cyder.

There are three sorts of Pearmains, and the larger sort is more pulpy than the smaller, *The Winter Pearmain.*

and keeps not ſo well, they are all of them excellent Fruit, but the Winter is beſt.

The Winter Queening is a very good Table Fruit, and ſo is the Quince-Apple.

The Nonſuch Apple is a long laſting Fruit and good at the Table.

The Pealing is a long keeping Fruit, makes good Cyder, and the Trees are great bearers.

The Leather-coat a good Winter Fruit, and long liver, ſo is the Golden Doucet.

The Pome Roy hath a good taſt, a pulpy ſubſtance, and not yielding much juice, yet that which is, is very good.

The Lording is a fair, green, and ſharp Apple, a conſtant bearer, being a hardy Fruit, and for the Kitchin only, and hath little Core.

The July-flower is of a pleaſant taſt, and long laſting, a thick rind, and hard Core, well ſtripped, good for Cyder, making an excellent mixture.

Pear Apple is a curious pleaſant Apple, of a rough coat, but the Tree no great bearer.

Greening is a good Apple, of a Green colour, and keeps to a ſecond year.

Lones Pearmain is call'd by ſeveral names in ſeveral places as the Marygold-Apple, Onyon-Apple, Kate-Apple, John or Joanes-Pearmain; It's a very good long laſting Fruit, fit for the Table, Kitchin, Conſervatory, or Cyder, having a good juice, bears

every

every other year to admiration, the intervening years but a few, and there is another of them call'd the Summer Marygolds.

Green Russeting is a tough and hard Fruit, long lasting and of a pleasant tast.

Red Russeting is of a lesser size, but an excellent Apple and long lasting.

Pome-water is an indifferent good lasting Fruit.

Winter Fillet or Violet is an excellent Cyder Fruit, yielding a delicate Vinous juice.

Winter Bellabon is a great bearer and keeps well and is a fair Apple.

The Oakenpin a long lasting Fruit, yields excellent Liquor, and is of the nature of the Westbury Apple, tho not in form.

The Nonsuch, is a long lasting Fruit, good at the Table, and well marked for Cyder, and the Redfennel, and Figg-Apple whose Tree yields no Blossoms as other Apple-Trees; nor Fruit any Core or Kernel, are also good Winter Fruit.

There are several other good Apples that will last and keep long as,

The { *John-Apple* or *Deuxant*, *Westbury*, *Winter-Reed*, *Flower* of *Kent*, *Winter-Chesnut*, *Maligar*, *Parsly* } Apple.

The

The { *Short tart* / *Winter-Russeting* / *Pelmel* / *Thrift* / *Winter-Clary* } Apple.

There are many and diverse kind of Pippins, all of them very good, yet the Gregory-Pippin propagated much about *Manchester* in *Lancashire*, I esteem to be one of the best for profit and service; it's a fair, large, well relished Fruit, hath little Core in it, and keeps and lasts well till the following *May*; The Trees are quick and large growers, and will prosper well upon courser Land than other Pippins, and the Trees are great bearers and the Fruit good for any Culinary use; And it's an excellent sort to be propagated, on mean Soils and where better Soil, is not to be had and for the Northern parts.

There also are several sorts of Renatings, very choice and good Apples, as the Goldin-Renating, the Lincoln-Renating, *&c.*

In Planting Winter Fruit, the best course is to Plant several Trees, of some few of the best kinds, after you have found what sort prosper best in your Soil; for many sorts will be troublesome in gathering, and keeping them severally when you have done. Long lasting; keeping, and fair Fruit, and

Apples,

Apples, will not only adorn your Table, but yield you moſt profit and ſervice.

§. 4. For Cyder Fruit, the Red-ſtreak, Bromsberry-Crab, Golden-Pippin, Gennet-Moil, Weſtbury-Apple, the White and Red Muſt-Apples, the John-Apple, Under-Leaf, Winter-Fillet, Elleots, Stocken-Apple, Bitter-Scale, Claret-Wine-Apple, Arrier-Apple, Richarsd or Grange-Apple, Coling-Apple, Olive-Apple, Fox-Whelp, Pippins and Pearmains mixt, Gilliflower-Apple. *Cyder-fruit*

But above all Cyder Fruit, the Red-ſtreak, is moſt celebrated for it's juice of any Apple the Engliſh Soil affords; It's one ſort of Wildings of *Herefordſhire*, and for the excellent Liquor it yields, is now ſpread into moſt parts of *England*.

There are ſeveral ſorts of them, as the Summer, Winter, Yellow, More-Green, and the Red Redſtreak, which is the Chief and more Red than the other. The Red-ſtreak ſhould be Planted for Cyder rather than any other Fruit, and that for the following Reaſons. 1. Becauſe it yields the beſt of Engliſh Drinks. 2. Becauſe the Fruit is harſh and unpleaſant, and tho kept long, tempts not the Palats of Lewd perſons. 3. The Tree thrives in as mean Land as any other Apple whatſoever, being a ſpontaneous Plant at firſt. 4. It's a conſtant bearer, being a Wilding, enduring (more than the grater part of other Fruit)

Fruit) the severity of sharp Springs often destructive to those that are more tender. 5. The Tree bears in a few years after Grafting, recompencing betimes the industry and cost of the Planter, the delay whereof in other Fruits, hath been a principal obstacle to the great design of Planting. 6. The Tree is low and humble and so more of them may be Planted in a like quantity of Ground, than the taller Trees which shade the Ground more. 7. The lowness of the Tree prevents the sharpe Winds in the Spring, and the Fruit of them are not so apt to be blown off in Autumn. 8. The Fruit exceeds all other Apples in the Kitchin for the time they last.

Golden Pippin.

But it's observed that the Cyder made of the Redstreak is not in all places alike, altho it be a curious Liquor, excelling most Cyders in most places, yet in some Lands other Apples may make a better Cyder; As the Golden-Pippin being a delicate Apple, yields a juice in many places exceeding the Redstreak: so that if your Land be rich inclining to the Pippin Fruit, the Golden Pippin merits a place in your Plantation, being a very great bearer, and the Fruit one of the best for the Table, as well as the Mill, and makes an admirable and restaurative Cyder.

If the Redstreaks are kept till they are mellow, the Cyder at first is very luscious,

if

if Ground early, then is the Cyder more racy.

The Bromsbury Crab is reputed next to the Redſtreak for good Cyder, and altho it be little better than the common Crab, yet if kept on heaps till almoſt Chriſtmas, and then Ground, it yields a brisk, poignant, and very excellent Cyder. *Bromsbury Crab.*

The White and Red Muſt-Apples make a Cyder very good to be drunk about Chriſtmas, next following the ſeaſon of making Cyder. The Trees are of quick and large Growth, good bearers, and 12 or 14 Buſhels or Strikes of them will make a Hogſhead of Cyder. *White, and Red Muſt-Apples.*

The Gennet-Moil was once accounted the beſt Cyder Fruit, and ſtill many Gentlemen that are Cyder Maſters prefer it, and preſerve it for their own Drinking. *Gennet Moil.*

The Winter-Queening is not commonly uſed for Cyder, yet it yields a ſtrong and Vinous Liquor, but ſo dry a Fruit, that 24 Buſhels will go to make one Hogſhead. The Fruit muſt not be Ground till very late in the year. *Winter Queening.*

Pippins and Pearmains mixt are much uſed, and Pippins alone make a ſtrong and wholſome Liquor. *Pippins and Pearmains.*

In *Hampſhire* near *Peterfield*, there is a Fruit known by the name of the Weſtbury-Apple, ſo call'd from the Village where the old Trees ſtood, that yielded the Grafts to it's Neighbours. It's a fair, Green, and dark *Weſtbury Apple.*

dark coloured Fruit, having on the Sunny ſide of them ſome Red ſtripes, the Rind or Peel exceeding rough, the Fleſh ſpongy and not inclining to Rot, altho rudely handled; if the Fruit hang long enough on the Trees untill they are ripe, which will be with the lateſt.

This Fruit is not to be eaten by reaſon of it's tough, rough and auſtere ſubſtance and Taſt, untill Chriſtmas.

The may be kept untill the Midſummer following, and are to be preferred for any Kitchin uſes. The Trees are great bearers, and thrive in any cold and moiſt Land, and it's probable in barren Land, it being a natural Fruit to this Country, and endures all weathers, and yields an excellent, and plentiful juice. For which property of being hardy, unpallatable whileſt on the Trees (a worſe Apple than it not being to be found) well bearing, durable, and uſefullneſs, the more ingenious Neighbours have encreaſt them. Of which Fruit hath been made Cyder far excelling any Redſtreak that could be there obtained, and it's probable may exceed any other Cyders, ſo that the Fruit be not Ground untill *December* at ſooneſt; For all hard, durable, rough and ſharp Fruits make the worſt Cyder, if Ground from the Trees, or ſoon after, and the beſt when they have been kept until time hath throughly digeſted their juice by lying on heaps and there ſweating. The

The John-Apple, or Two-year-old, ſo call'd from it's long laſting, continuing near two years, is an Apple not much unlike the Weſtbury-Apple laſt mentioned; for it agrees with all Soils, and where the Pippin Fruit are ſo ſubject to Canker, that it's labour loſt to Plant them, there this Deux-Ans, or John-Apple flouriſhes even to exceſs, and it's Rind ſo clean, that no other Tree is to be compared to it. The Tree is more apt to aſpire than any other Apple-tree, it's Branches grow very uniform, and therefore may be Planted near one to the other in Rows, but thoſe Rows at a fair diſtance, whereby beautiful Avenues may be made, yielding Fruit as well as ſhade. The Trees are great bearers, and hardy againſt all Winds and Blaſts; The Fruit is ſo hard, ſharp, and unpalatable from the Tree, that it's freed from the danger ſweeter Fruits are ſubject to; they hang long on the Trees before they are ripe, and then being laid up until *December*, or after, and Ground, yield a very delicate Cyder, which will ſoon ferment, therefore muſt be drawn off the Lee in a few days.

John-Apple, Deux-Ans, or Two-year-old Apple.

This being a common, and in ſome places but a Hedg-Fruit, and yielding but a thin ſowr juice, being Ground from the Tree, hath been of late ſlighted, when in truth there is ſcarce a better Fruit to be Planted, than this John-Apple, or Two-

year-

year-old, both for the beauty of the Tree, it's quick growth, it's liking all Grounds, great bearing, enduring all Weathers, long lasting, it's excellency for Kitchin uses, and preference at the Table, when most other Fruits are past.

Observe that Cyder Fruit may be divided into three Classes, First, such as are for making early Cyder, or for present Drinking, as the Codling and Summer Fruits, *&c.* Secondly, such that are for making the best, rich, oyly, spicy, poignant, and high relished Cyder, and also long keeping and lasting, such are the Redstreak, Bromsberry Crab, Golden-Pippin, Westbury-Apple, John-Apple, the several sorts of Musts, and Fillets, the Elliot and Stoken-Apple, *&c.* Thirdly, such that are useful Fruit for the Table, yet making a very pleasant and acceptable Cyder, and such are the Pippins and Pearmains, Gilliflower, Marigold-Apple, Golden-Renneting, Harvey-Apple, Queening, *&c.* Generally all hard Apples and Wildings, having a lively, pert, poignant, brisk juice (so that they come not too near the degree of stark Crabs) make excellent Cyder; but Cyder, made of hard, harsh Fruits, is not so soon ready for drinking, as that of Summer Fruits, and those more pleasant: That made of Table Fruit being earliest ripe, is ready to drink so soon as it is well settled and cleared; but that of hard Apples, not till Summer following,

lowing, and will continue good for two or three years, or longer, if kept in a cool Cellar, good Veſſells, well ſtopt, and will improve in keeping.

Of Planting ſeveral kinds of Apples.

Some object that ſince one or two kinds of Fruits may be had very good for Cyder, what occaſion is there to Plant of ſo many ſorts?

For Anſwer; They will find it advantageous to have ſeveral ſorts of Fruit for Cyder, for the following conſiderations, 1. One ſort of Fruit-trees may and do bear one year when another fails. 2. Cyder made of ſome kinds will be ready to drink ſooner than others, and thereby you may have it ſucceſſively for your uſe. The Muſt-Cyder may be clear a Month after making; The Gennet-Moil a quarter of a year after; the Redſtreak near Half a year after, though it's much improved by longer keeping. 3. You may make your Cyder with more eaſe, the Fruits you make it of ripening one after another. 4. Tho ſome Fruits yield not ſo good Cyder as others, yet the Trees may be quicker of growth, bear more plentifully, and laſt longer than thoſe that yield better; and the Palates of men being various, ſome like one ſort and ſome another, and ſo all may be pleaſed. 5. Some Fruit-trees agree with the Soil and Clymate better than others, which you'l not be able to know, till you have made tryal of ſeveral.

How to make a new kind of Apple or Pear.

Graft one Fruit on another many times over, every year a different kind, (ſo that you keep to thoſe kinds that will grow together.) As firſt to Graft a Crabtree near the Ground with ſome good kind of Apple Graft, and the next year to Graft that again a handful or two above where the firſt was Grafted, and the next year to Graft that ſecond Graft, and ſo proceed for five or ſix years, by ſetting Graft upon Graft, and this may probably make ſome alteration and commixture in the Fruit of the topmoſt Graft; tho it be true, every Graft keeps it's own nature, yet ſo as it receives ſome ſmall alteration from the Stock, the Sap thus ariſing and paſſing through ſo many kinds of Stocks into the topmoſt, may poſſibly raiſe a new Fruit.

The more Red any Apple hath in it's Rind, the better for Cyder, the paler the worſe; no ſweet Apple that hath a rough Rind is bad for Cyder, if ſuffered eſpecially to digeſt ſome time on heaps, as is hereafter directed, *Chap.* 29. *Sect.* 3.

Mixture of Fruit is of great advantage to your Cyder, the meaneſt Apples mixt make as good Cyder as the beſt alone, except the Redſtreak, and ſome few celebrated Apples for that purpoſe; but always obſerve that the Apples ſo mixt be of equal ripeneſs.

CHAP.

CHAP. XXVIII.

Of Annoyances to Fruit-Trees.

§. 1. THE nature of Soil is the chief cause of the Moss and Canker, and therefore without altering the one, you can scarce prevent the other, however you may with a hair cloth rub the Moss off, after rain, or (as some say) burn it with a bottle of Straw under the Tree: but if you only scrape or rub off the Moss, in few years they'l be as much annoyed therewith as ever; because Mossiness is caused by over coldness of the Ground, as in the Waterish and Clay Grounds, and likewise by Barrenness of the Soil. If the coldness proceed from over much moisture, lay it dryer, by Trenching the Ground; if Clay Grounds, then mix warmer Soils therewith as you are before taught at *Chap. 7. Sect.* 10. yet be sure you take away the present Moss. *Concerning Moss or Canker.*

All Canker, Filth, and Worms, must be picked clean off, and bind some Clay well mixt with Hay about the Canker'd place.

If the Tree grow but poorly, which is for the most part caused by the ill tempet

of the Soil, open the Ground about the Roots and put in ſome Manure proper to cure it.

The Canker aſſaults generally the beſt ſorts of Fruit-trees, as the Pippin, Pear-main, Harvy-Apple, Golden Rennet, *&c.* of Pears the Wardens of all ſorts, Burgamots. *&c.* And it ſomtimes comes by galling and fretting of Boughs on each other, and ſomtimes by ſetting Trees not ſhallow but too deep, as well as by Barrenneſs of Soil, and ſomtimes it comes by breaking off Boughs (which ſhould be cut off cloſe to the Tree, tho in the Summer) and Cattles nipping off the Buds or pieces of the Tree, or unſeaſonable Pruning.

Raiſing of Stocks from Crab-kernels in the ſame Land and Grafting on, after once removed, and placed where they are to grow and be Grafted, prevents the Canker.

To cure the Canker at preſent, cut it out, if it be upon the body or great Boughs of Trees, and waſh the place with Cow-dung and urine mixt, and then cover the place with Clay mixed with Horſe-dung, and cut off the ſmall Branches that are dead; however ſtop the cauſe by amending the Soil at Roots with proper Manure, as the Dung of Hogs, Pidgeons, Poultry, Horſes, Cows, the ſediments of Pools, Ponds, Currants, Shovelings of yards where Cattle frequent, *&c.* according to the nature of the Soil.

§. 2. Slit-

§. 2. Slitting the Bark is an excellent additional help to most of the aforsaid evils, and also for Bark binding; some advise that the Bark be cut according to the grain of it, as in Apple trees, Pear-trees, *&c.* straight down; in Cherries *&c.* round about the Trees; and where the Graft over-thrives the Stock, there slit the Stock, but not quite through the Bark, and this slitting must be done in the Spring about the middle of *February*, or at Candlemas. *Bark bound.*

§. 3. You'l often find in the same Land some kinds of Fruit-trees very subject to some of the beforementioned evils, and others prosper well; when once you discover this (because it's utterly in vain to make Ground and Trees of different Genius agree together) you must make it your business by degrees to change your Trees, till you have left none against which your Soil beareth such an implacable hatred, and furnish it with such as will flourish and be fruitful. *Some Trees prosper where others will not.*

§. 4. If any of your Trees are galled by rubbing on each other, or by being bound to Stakes, or by Thorns, or otherwise, lay some Clay upon the gald places and wrap Hay-bands about them, but withall remove the cause by Pruning, or otherwise. *Bark Gal'd*

Dead Tops or bitten Twiggs to be cut off.

§. 5. Bigg Plants that upon there removal have had their Tops cut off, are apt to dye from the place they were cut off at, to the next Sprig or Branch upon them; these dead parts, or any piece bit by Cattel, ought to be cut off close to the next good Twig or Shoot, and cover'd with Clay as in Grafting, that the head may be well grown over by such Twig or Shoot, and the wet prevented of getting into the Pith, to the dammage of the Tree.

Hares and Coneys.

§. 6. Hares and Rabbets are very mischievous to Nurseries, and young Orchards by peeling off the Bark of the Plants; if your Fence be a Wall, or close Pale, or Water, there's little danger of them, but because such Fences about Orchards are rare, and no other can keep them out, some expedient must be made use of.

Some have used Hay Ropes bound about the Tree from the Ground a sufficient height; but this were endless in a Nursery, it may be done in an Orchard, but there are other ways to be preferr'd before it.

Others therefore dawb the bodies of the Trees over with Tar, which being used alone endangers the life of very young Plants, and extreamly hardens the Bark, and otherwise hurts them, which evil is prevented by mixing the Tar with any kind of Grease, and boiling them on a Fire, so as both may incorporate, then with a Brush,

or

or little Broom, dawb over the body of the Tree, as high as an Hare or Rabbet can reach, and this is to be done about the tenth of *November*, it will preſerve the Trees for that whole year, with that once doing, it being the Winter time only that they will feed upon the Bark.

Some uſe Greaſe alone, and then it will require to be laid on twice in a Winter.

Some thin ſtuff out of a houſe of Office, or the thick tempered with Water, and bruſht on, once or twice in a Winter hath been often uſed with good ſucceſs.

And if you deſire to take them, ſet Grins of Wire, Snares, or runing Nooſes of Wire (whoſe brittleneſs is allay'd by the heat of Fire) at and in their Muſets, or the holes they come in at, and you may take many, but ſcarce all before you have great miſchiefs done you.

§. 7. If you find Piſmires, or Ants, breed about or near the Roots of any of your Trees, caſt away the Earth they lodge in, and ſupply it's place with ſome ſtiff Clay: If they breed diſtant in ſeveral places, ſome direct to dawb the Tree about with Tar, that their feet may be taken in it, but you heard already that's prejudicial to young Trees; but if they peſter you extreamly, and your Tree be young, you may bind a ſingle liſt, or ſhred of cloth about it, and once a week (when Buds and Bloſſoms are *Piſmires and Ants.*

putting forth, for that is the chief time they prejudice them) dawb the cloth over with Tar. And where you find their breeding places, pour ſcalding Water thereon.

Moles and Water Rats

§. 8. Moles are to be killed, eſpecially in Seed plots and Nurſeries: Spring-traps, or Box-traps are beſt to deſtroy them, not eaſily deſcribed, but are now almoſt generally known. There are alſo ſome kinds of Cats that will not leave a Mole either in your Garden or Orchards, and ſome ſay that Water Rats will ſpoil a whole Nurſery getting through Mole holes, and Barking or eating the young Roots, and theſe are ſaid to be frequent where your Nurſery is near a Fiſh-pond.

Suckers.

§. 9. From the Stock uſually ſpring many Suckers, which extract the nouriſhment from the Tree, they muſt be taken off dexterouſly from the Root, and may be prevented by Grafting on good Stocks raiſed from Kernels: for Trees Grafted on, or proceeding from Suckers, are always ſubject to this diſeaſe, which the Canker uſually attends.

Eſts.

§. 10. Eſts or (or ſome call them) Askers, are ſaid to be pernicious to Trees; therefore as you find either Moles, Water Rats, or them, deſtroy them.

11. The

§. 11. The greatest prejudice to Fruit is by Blastings, Frosts immediately succeeding rain, Caterpillars, or black Flies, that eat up Buds, Leaves, and Blossoms; therefore when in the Spring you perceive these Caterpillars or Flies appear, make fires of something that will smoak, so near the Orchard, and in such places that the Wind may carry the smoak as much through the Trees as may be. A thing frequently used is Hemp sheaves (as t'is called) being the Stalk of the Hemp, when the Tow is separated from it, and 'its certainly very good, but bad Chaff, wet Straw, or Moldy Hay, or any thing of that nature may serve turn, and 'tis said to be good for Frosts also, but how, I know not; and you may also pluck off those Leaves which have the Cobwebs made upon them, (in which they breed) and tread them under foot, for one of them contains multitudes. *Blastings, Frosts, and Caterpillars.*

§. 12. Snails are pernicious to Wall-fruit therefore destroy as many of them as you can, when they are best to be discover'd which is early in the morning. *Snails.*

§. 13. To preserve your Wall-fruit as, Apricocks, Peaches, Nectarins, *&c.* from blasting Winds, and Frosts, it will be necessary to cover them in the nights and cold days, by hanging before them Canvas or thick *Cover Wall-Fruit.*

thick Linnen cloths, which you may draw up and let down by Pullies.

Birds. §. 14. Birds, as the Bullfinch, Titmouſe, or Tomtit, *&c.* are affrighted beſt by a dry Hawk perching in the middle of the Tree, or by taking them with Birdlime: Crows will be frighted if you kill one or two of them, and pull it in peices, and ſcatter the pieces about the Trees, they'l not come their again whilſt the Feathers are any thing freſh: but Magpies, Jackdaws, Jay's are not to be frighted from your Cherries, but kill'd as they come with a Gun, and that early in the morning.

Earwiggs. §. 15. Earwigs are deſtroyed by ſetting Ox hoofs, Canes, or any hollow thing near the Roots of the Trees, and among the Boughs upon the ends of ſticks, and they'l Creep in, and lye there, then take off theſe Hoofs quickly, and ſhake them and cruſh them on the Ground with your foot.

Cattle. §. 16. Cattle, whereſoever they come amongſt Trees, are a mighty and miſchievous enemy, if the Boughs be within their reach; for then they'l bite off the ends of all, and thereby with their Teeth, ſo bruiſe the ends of the Boughs and Shoots, that the Tree ſeldoms thrives of many years, if ever, afterwards. Where this misfortune happens to any Tree, the only remedy

dy is to cut off at some Sprig or Bud, so much as they have had in their mouths, or is bruised by their Teeth. And Fence your Orchards well from them, or els, which is the surest way, not to let your Trees begin to spread before they be six or seven foot high, of the Trunk or body, and so Prun'd up, that all the Boughs and every part of them be so far from the Ground as will be impossible for Cattle to reach.

§. 17. Altho the setting Trees too deep and below the good Soil be no disease, yet it's the cause of many diseases to your Fruit-trees, as Moss, Barkbound, Canker, *&c.* therefore carefully to be avoided; setting shallow being attended with no other inconveniences, but that the Trees are sometimes blown down, if not Staked the first two years. *Setting too deep.*

CHAP.

CHAP. XXIX.

Of Gathering Fruit, and the best way of making Cyder.

§. 1. IN gathering of Fruit, be careful that the Branches of your Trees be not battered and broken.

§. 2. Such as you design to keep any time, ought not to be shaked off the Trees, because of bruising, but picked off with your hands: Be sure the Fruit you gather be throughly ripe, which you may know by it's beginning to drop, or by cutting an Apple, and seeing the Kernels turn black: Let the Weather be fair and dry when you gather, and no dew upon the Trees; lay up what you thus gather in a close, but a sweet room, upon a boarded (but not with Deal) Floor, and not on a Clay, or plaistred Floor, and lay them up without any green Leaves, or Sticks among them. As you find any in your heaps rot, pick them out, and in Frosts cover them with Straw, or Straw Mats, and also hang in sharp Frosts Blankets before the Windows to keep out the

the Frosts. Lay every kind by themselves.

If you have some Pears that are choice and lasting, wrap them up in paper, and lay them one by one upon shelves, or hang them up by the Stalks, and keep out the Air from them as much as you can.

Gathering of Cyder Fruit and preparing it for the Mill.

§. 5. In gathering Cyder Fruit, you must be sure to let them be well ripe on the Tree, for there is much Cyder spoild because the Apples are Ground before they are ripe, and all Fruits yield a different Liquor according to the different degrees of maturity of the same Fruit; for when it's most ripe it yields a richer, pleasanter and more lasting drink; but if pressed before ripe, tho it yields a greater quantity, yet it's but a thin, raw, crude, sowr, phlegmatick, and unwholesome drink: Therefore if your Fruit be not ripe all at one time, select such sorts as are of a like degree of maturity, or if the Wind beat down many, and you are unwilling to spoil or lose them, let them lye dry as long as you can before you grind them, to obtain as great a degree of ripeness as they can, and let that Cyder be thoroughly fermented before barrel'd, and the first that is spent; neither mix ripe with unripe Fruit, nor ought you to permit some sorts of Fruit be too ripe; because it then grows pulpy in Grinding, and will not yield it's Liquor

unless

unleſs ſome Water be mixed therewith; your choice Summer Fruits are ſome of them, as alſo the Pippins, and Renatings ſubject to pulpineſs, if full ripe.

Lay ſuch Fruit by themſelves (to be Ground and preſſed for Cyderkin) that are broken; but a ſmall bruiſe does not much injury.

Your Apples being well ripe, let them be gently ſhaken down, and laid out of the Sun and Rain, not abroad but in a heap, upon a ſweet and dry Floor that is boarded (but not with Deals, nor on a plaiſterd Floor) and on dry, Rye, Wheat or Oaten Straw, till they have ſweat out and digeſted their crude and phlegmatick humour, and there let them ſo lye a fortnight; the Redſtreak and harder Apples you may let lye longer, that is, three weaks or a Month; the longer they lye, the leſs Cyder indeed they will yield, but much the better, it being neceſſary to have them as ripe as may be, ſo that too many of them begin not to rot, which rotten ones are to be picked out.

Grind not your Apples immediately from the Tree, ſo ſoon as they are throughly ripe, tho they will then yield the greater quantity of Liquor, but neither pleaſant nor laſting, therefore let them lye on heaps as aforeſaid.

By hoarding only of Windfalls for ſome time, or untill the time it was expected they ſhould

ſhould have been ripe in, doth very much meliorate the Cyder made of them, which otherwiſe might have been very bad.

For from the due time, place, and manner of hoarding of the Fruit is oftentimes the Cyder very good, which otherwiſe might have been very bad.

Thus when your Fruit is duly ripe, gathered, preſerved or hoarded ſome time, it's ready for the Mill.

When you bring your Apples to the Mill, or juſt befor you fill them up; pick out, or caſt by, all that are Green, unripe, rotten, or otherwiſe naught, and all Stalks Leaves, *&c.* that may injure your Cyder, for it's better to want a ſmall quantity of Liquor than to ſpoil the whole.

Some are of opinion that rottenneſs in the Apple injureth not the Cyder, but that a convenient quantity of rotten Apples mixt with the ſound is a great help to the Fermentation and Clarification of the Cyder; but it's ſuppoſed they mean ſuch Apples only as have been bruiſed in gathering, ſhaking down, or carrying, which will by lying become rotten, and (the skin being whole) be not much the worſe, only the Cyder will retain a ſmack of them; notwithſtanding which, by no means admit them amongſt your Cyder, that you intend for keeping, but rather make Cyder of them for a more early ſpending: for others affirm,

affirm, that one rotten Apple corrupts a whole Veſſel, which I preſume is intended only of putrid rottenneſs.

Of grinding and Preſſing the Apples.

§. 4. Grind not your Apples too ſmall, for if they are not very ſmall Ground, you'l have but little leſs Cyder (altho the contrary is commonly believed.)

After your Fruit is Ground, let it ſtand 24 or 48 hours, according as your time and conveniency will admit, ſo that it be altogether in good quantities in large Veſſels; by ſtanding thus it not only matures, but acquires colour, commendable in Cyder, and alſo cauſes the leſſer part of the Apple eaſily to part with it's juice in the Preſs; therefore obſerve not the general adviſe to preſs immediatly from the Mill.

You may leave a paſſage open in the bottom of your Fat, wherein you keep your bruiſed Apples, during the time of their being therein, from the grinding to the preſſing; and ſome of the Cyder may ſpontaneouſly deſtill into a receiver placed under it, or you may have a falſe Bottom full of holes, that the greater quanty may be had which may run through ſome Tap or other paſſage into your receiver: Cyder thus obtained far excels that which is forced out by the Preſs, as Live Honey that deſtills of it ſelf from the Combs, is much better than that which remains and is preſſed out

after-

afterwards; but this is only uſed to get ſome ſmall quantity of the richeſt Cyder.

In preſſing the Apples, in caſe you intend not to uſe (which is bad husbandry) your Pulp, Muſt, or Murc afterwards for the making of Water Cyder, uſually call'd Purre, or Cyderkin, then it is beſt to preſs it as dry as you can, but incaſe you intend to add Water to your Murc, and to preſs it again, then you need not to preſs it very hard, for your Cyder will then be ſomthing the worſe, and ſo will your Purre, or Cyderkin: for the laſt ſqueezing is the weakeſt, and makes your Cyder the rougher; and if any thing will, that gives it a Wooddy taſt, unleſs it be prevented in the eaſy Grinding; but this only is obſerved when you intend to have ſome rich Cyder, and Cyderkin for your own uſe, otherwiſe Cyderiſts generally preſs their Apples as hard as they can, altho they intend to make Cyderkin of the Murc.

§. 5. As your Veſſel under the Cyder-preſs fills, then take the Liquor, and pour it through ſome Streyner or hair Sieve (which will detain the Pulp and groſſer pieces of Apples from intermixing in the Vat) into a large Vat, from whence moſt preſcribe to tun it immediately into the Barrels wherein it's to be kept, leſt it's ſpirits ſhould evaporate; but others rather chooſe to caſt a cloth only over the Vat of Tun *Barrelling of Cyder.*

to preserve it, and rather waſt and conſume the wild Spirit of the Cyder, in the Tun or Vat, and let it there in ſome ſmall degree purify by ſtanding coverd five or ſix hours in the Vat, before you put it into the Barrel it's to be kept in; then they ſeparate the pure from the impure by leaving as many Feces or Dregs to remain on the bottom of the Vat as poſſible; becauſe Dregs very much incommode your Cyder by making it quickly become acid.

Then Tun up the pureſt (leaving the ſediment at bottom of the Vat) Liquor in a Hogſhead or Barrel, ſeaſoned and ſweet, fill it not up by two Gallons at leaſt, and ſtop it up only with a looſe ſtopper for four or five days, and then ſtop it up cloſe with Clay on the top or Tun-hole, and put a Cork or ſome ſtopper in the Vent-hole, looſly putting in the Peg; but for a weeks time or more, you may once a day draw it forth a little, leſt it break the Veſſel, or force ſome other vent; then ſtop it cloſe up alſo, and ſo let it ſtand till you think it may be ſomthing clear, and then pierce it, to try how it fines; The Summer Fruit after a Month, the Moil after the firſt Froſts, the Redſtreak not till after *January*, other Winter-Fruit Cyder about the ſame time.

If the Cyder be ſo clear that it will not again ferment, and you intend to keep it long in the Barrel; put in clean ungrounded Wheat,

Wheat, after the proportion of a quart to a Hogſhead, which will preſerve it; and this artificial head is only to be uſed, where an admiſſion of Air may probably be into the Veſſel.

Stopping of Cyder with Clay, if you deſign to keep it long, is not ſo good as a Woodden Plug, turn'd fit to the Bunghole, and covered about with a ſingle brown paper wet, before you wring it into it's place, and then let the Plug be well luted on the top and ſides with Clay temperr'd with Salt.

§. 6. If your Cyder be not fine at the times aforementioned, try them again about a Month after, and then if it be not fine, rack it off as you would do Wine, ſetting another Veſſel in a convenient place, that through a pipe of Leather, or a Siphon, or a Crane of ſome metal, (as of Latten) or Glaſs, the Liquor may run out of the one into the other, without being expoſed to the Air, which is a moſt material thing to take care of at all times, the ſpirits of Cyder being very apt to evaporate. *How to fine or clear Cyder.*

Some chuſe rather to fine their Cyder with Water Glew, commonly call'd Iſinglaſs, than by racking it. And the common and beſt way is that amongſt Vintners, &c. that have frequent uſe for it; and it is to diſſolve a conſiderable quantity of Iſin-

glass in White Wine, without putting it on the fire, which it will do in about a Months time, and turn to a Jelly, which they keep by them, and it will keep good a Twelvemonth; and when they have occasion to use it, remove the Scum that will be on the top of it, and take what quantity will serve their turn out of it, according to the proportion of a quart to a Hogshead; and this they beat to a froth, and mix it with a quantity of the Liquor it's to be put in, and then pour it into the Vessel mixing it well together with a Broom, and so leaving the work.

Or if your Cyder hath stood long, and will not be fine, as oftentimes it so happeneth; Then take Isinglass about an Ounce to an Hogshead, and steep it a day or two in about two quarts of Cyder untill the whole be reduced to a Gelly, which by standing warm it will easily do, then draw off a bout a Gallon of the Cyder, and mix the Gelly (being cold) throughly with it, and put the whole into the Vessel of Cyder at the Bung, and with a splitted staff, stir it well together, and in a day or two it will be fine without any prejudice to your Cyder.

This way of purification will serve in all sorts of Liquors, and is much to be preferred in the juices of Fruits, to that vulgar way of making them to Ferment by the addition of Yeast, or Tosts therein dipt,

as is usually prescribed; that being but an Acid excitation to Fermentation, all things tending to Acidity being (as much as may be) in our operations to be avoided.

This way also is better than the tedious way of Percolation, and racking from Vessel to Vessel, which wasts not only the Spirits, but substance of the Liquor it self, and leaves you but a thin and flat drink, hardly ballancing your trouble.

When your Cyder is very fine, either draw it out of the Vessel as you drink it, or which is far better, Bottle it: And take notice after it is fine, the sooner you draw it off the better.

§. 7. Altho your Cyder be well made, yet if it be put into ill shaped, corrupt, faulty, and unsound Vessels, it's certainly spoil'd. Altho the vulgar round Barrel be most useful, and necessary for Transportation from one place to another, yet is the upright Vessel, whose Ribs are streight, and the head about a fourth or fifth part broader than the bottom, and the height equal to the Diameter of the upper part, the best form to stand in a Cellar. The Bung-hole of about two Inches Diameter, is to be on the top with a Plug of Wood turn'd round exactly to fit into it, near unto which there must be a small Vent-hole, that after the Cyder is tunn'd up, and stopt at the Bung or Tun-hole, you may give it *Of Vessels for Cyder.*

Vent at pleaſure; and that when you draw it forth, you may there admit Air into the Veſſel. This is call'd in *Lancaſhire*, a Stand Barrel, becauſe it's made after the form of a Veſſel which the meaner ſort of People keep their drink in, call'd a Stand. This form is preferred; becauſe that moſt Liquors contract a skin, or cream on the top, which helps much their preſervation, and is in other forms broken by the ſinking of the Liquor, but in this is kept whole; which occaſions the freſhneſs of the drink to the laſt. The form hereof is thus.

If the Veſſel you put Cyder in be New, ſcald it well with hot Water, wherein ſome of the Muſt, Murc, or Pouz of the Apples have been boil'd.

If your Veſſel be tainted, take five or ſix Stones or more of ſome unſlak'd Lime, and put it in the Veſſel with ſix or ſeven Gallons of Water, and ſtopping it well, Roll it about a while till the Lime be thoroughly ſlak'd.

Wine Cask, if ſweet, are accounted proper to keep Cyder in; but Veſſels out of which ſtrong Beer, or Ale have been lately drawn are to be rejected, unleſs throughly ſcalded and ſeaſoned as before, which then will ſerve indifferently well, nothing agreeing worſe with Cyder than Malt. Small Beer Veſſels well ſcalded are not amiſs. White or Rheniſh Wine Veſſels may do well for preſent drinking, or for luſcious Cyder, elſe they are apt to cauſe too great a Fermentation.

The uſing of Cyder Veſſels between the Cyder ſeaſons, with Beer or Ale, not only very much prejudiceth the Cyder, but the uſing of them for Cyder, injureth very much the next Brewing of Ale or Beer. But if you are enforc'd to uſe ſuch, let them be well ſeaſoned and ſcalded as before.

To Sent your Cask as Vintners do for their Wines, do thus, *viz.* Take of Brimſtone four Ounces, of burn'd Allum one

Ounce, and of *Aqua Vitæ* two Ounces, melt these together in an Earthen Pan over hot Coals, then dip therein a piece of new Canvass, and instantly sprinkle thereon; the powders of Nutmegs, Cloves, Mace, Ginger, Cynnamon, Coriander, and Anise Seeds, and by a wire let it down into the Vessel, and set the Canvass on fire, and let it burn, and it will fill the Vessel full of smoak, then take it out, and immediatly Tun up your Liquor, which gives it no ill taste, nor savour, and is an excellent preserver both of the Liquor and your health.

Some take Brimstone, Orras Roots, and Mastick, of each a like quantity melted altogether, and long narrow pieces of new Canvass drawn through it, being lighted, and put in at the Bunghole, keeps the Cyder long, clear, and good, and gives it a pleasant taste.

Cyder by time changes it's greenish colour for a bright Yellow, inclining to Redness.

Vessells wherein Malaga, Canary, Sherry, or Metheglin have been kept, will much advance the Colour and taste of your Cyder, especially if some of the Lees of Canary, or Malaga, be left therein, *viz.* about two or three quarts.

If your Vessel be musty, Boyl Pepper in Water after the proportion of an Ounce to an Hogshead; fill your Vessel therewith scalding

ſcalding hot, and ſo let it ſtand two or three days, or inſtead thereof uſe Lime as aforeſaid.

Wheat Bran caſt into the Veſſel after Fermentation, thickens the Coat or Cream of Cyder, and conduces very much to the preſervation thereof.

It

§. 8. Thick, double Glaſs Bottles containing about quarts apiece, are preferr'd very much to Stone Bottles; becauſe that Stone Bottles are apt to Leak, and more apt to taint than the other, and are ſo rough in the mouth that they are not eaſily uncork'd, neither are they tranſparent, that you may diſcern when they are foul or clean; it being otherwiſe with Glaſs Bottles, whoſe defects are eaſily diſcern'd, and are of a more compact metal, or ſubſtance, not waſting ſo many Corks. If Glaſs Bottels happen to be muſty, they are eaſily cured, by boyling them in a Veſſel of Water, putting them in whilſt the Water is cold, which prevents the danger of breaking, if you be ſo cautious as not to ſet them down ſuddenly on a cold Floor, but upon Straw, Board, or ſuch like. *Choice of Bottles & Corks for Cyder.*

If your Glaſs Bottles be foul, you may cleanſe them with hard Sand, or ſome Lead-Shot (each about the bigneſs of an ordinary Peaſe) roll'd, and tumbled up and down with Water, which will alſo in ſome degree take away the muſtineſs from them. Great care

care is to be had in chooſing good Corks, much good Liquor being abſolutely ſpoiled through the only defect of the Cork; If the Corks are ſteeped in ſcalding Water a while before you uſe them, they will comply better with the mouth of the Bottle, than if forced in dry: alſo the moiſture of the Cork doth advantage it in detaining the Spirits.

Bottling of Cyder.

§. 9. Drawing of Cyder into Bottles, and keeing it in them well ſtopt for ſome time, is a great improver of Cyder. This is done after it is throughly purified, and at any time of the year; if it be bottled early, there needs no addition, it having body and ſpirit enough to retrive in the Bottle what it loſt in the Barrel: But if it have been over-fermented, and thereby become poor, flat and eager, then in the Bottling if you add a ſmall quantity of Loaf Sugar, more or leſs according as it may require, it will give a new life to the Cyder, and probably make it better than ever it was before, eſpecially if it were but a little acid, and not Eager.

When your Cyder is thus Bottled, if it were new at the Bottling, and not abſolutely pure, it is good to let the Bottles ſtand a while uncork't before you ſtop them cloſe, or elſe open the Corks two or three days after, to give the Cyder Air, which will prevent the breaking the Bottles

tles againſt the next turning of the Wind to the South.

The meaner Cyder is more apt to break the Bottles than the richer, being of a more Eager nature, and the ſpirits more apt to fly, having not ſo ſolid a body to detain them as the rich Cyders.

Obſerve that when the Bottle breaks through the Fermentation of the Cyder, to open your Corks, and give vent, and ſtop them up again a while after, leſt you loſe many for want of this caution. Lay your Bottles ſideways, not only for preſerving the Corks moiſt, but for that the Air that remains in the Bottle is on the ſide of the Bottle, where it can neither expire, nor can New be admitted, the Liquor being againſt the Cork, which not ſo eaſily paſſeth through the Cork, as the Air. Some place their Bottles on a Frame, with their mouth downwards for that end, which is not to be ſo well approved of, by reaſon that if there be any the leaſt ſettling in the Bottle, you are ſure to have it the firſt Glaſs.

Placing Bottles on a Frame, as is uſual, or on Shelves, is not ſo good as on the Ground; by reaſon the farther from the Ground they ſtand, the more are they ſubject to the Variation of the Air, which is always more rare in the upper, than lower part of a Cellar, or other Room. Setting Bottles in Sand is much uſed, but without

reaſon,

reaſon, becauſe it adds not that coldneſs to the Bottles as is generally expected, being rather of a dry and temperate quality than cold.

The placing of Bottles in Wells, or in Ciſterns of Spring Water running, or very often changed, is queſtionleſs the beſt way to preſerve either Ale, Cyder or any other Vinous Liquor.

A Conſervatory made where a continual recruit of a cool refrigatory Spring Water may conveniently be had, will ſo long preſerve Cyder untill it become to the ſtrength even of Canary it ſelf.

Where you have not conveniency of Water, or are unwilling to be at the expence of making ſuch Conſervatories, there the beſt way is to dig Vaults in your Cellars, under the level of the bottom, or to make Niches in the Walls near the Ground, and in them place your Bottles leaning: for the more they are from the Air, and the more they are encompaſſed with Stone or Earth, the cooler they will continue, and the leſs ſubject to the inconveniences that happen from the mutability of the Ambient Air.

Binding down the Corks of your Bottels in caſe of danger is not ſo much to be commended, as well fitting them in by full Corks; becauſe the Liquor were better fly the Cork, than break the Bottles, which

muſt

must be in case the Cork be tyed down, and the Liquor not well qualified.

§. 10. Somtimes Cyder that hath been good, by ill managment, or other accident becomes dead, flat, sower, thick, muddy, or musty, all which in one sort or other may be helped. *Restoring of Decayed Cyder.*

Deadness or flatness in Cyder is often occasioned, from the too free admission of Air into the Vessel, for want of right stopping; which is cured by pressing some Apples, and put up only the new Must or Cyder that comes from them on the decayed Cyder, and stopping it close, only sometimes trying it by opening the small vent, that it force not the Vessel. The same may be done in Bottles, by adding a spoonful or two of new Must or Cyder to each Bottle of dead Cyder, and stopping it again. Cyder that is dead or flat, will oftentimes revive again of it self, if close stopt, upon the Revolution of the year and approaching Summer.

But Cyder that hath acquired a deadness or flatness, by being kept in a Beer or Ale Vessel, is not to be revived, the smack of the Beer or Ale being the only cause of it, will always predominate,

Honey or Sugar mixt with some Spices and added to the Cyder that is flat, revives it much; let the proportion be according as the distemper is that requires it.

If

If Cyder be Acid, as ſomtimes it happens, by reaſon of the Immaturity of the Fruit too nimble an operation, too great a Fermentation in the Veſſel, or too warm a ſituation of your Veſſels wherein it is kept, this ſomtimes becomes pleaſant again, in caſe it's Lee be yet in the Veſſel, as is ſuppoſed by a ſecond operation on it; but in caſe it doth not, if you add about a Gallon of unground Wheat to a Hogſhead of it, it will very much ſweeten it, and make it pleaſant; The ſame effect will two or three Eggs put in whole, or a pound of Figgs ſlit, produce, as is reported; but the ſureſt remedy is Bottling it with a knob of Sugar proportion'd according to the occaſion.

Wheat Boyled till it begin to break, and when cold, added to the Cyder, but not in too great a quantity, and ſtirred into it, helpeth it much.

If your Cyder be Muſty, which happens either from the place the Fruit lay in before Grinding, or from the Veſſels through which the Pulp or Muſt hath paſt, or that the Cyder is contained in, the cure thereof is very difficult, altho in ſome meaſure the ill ſavour of it may be corrected; by Muſtard-Seed ground with ſome of the ſame Cyder.

Thick Cyder is eaſily cured at what Age ſoever; by exciting it to a Fermentation, and

and purifying it with Isinglas, as is before directed.

Note that there are several Cyder Mills lately found out which are better understood by seeing one, than any description can be given, and they are excellent to grind Apples before you press them.

§. 11. It's observed that many sorts of Apples throughly ripe, will endure some addition of Water, without any prejudice to the drink, especially in the Island of *Jersay*, where they frequently give it a dash; this dilution is only with Apples of a mellow and rich juice, and is necessary to help it's clarification, the Cyder it self being of too glutinous a substance, and they not acquainted with any other way of attenuating it. *Of making Water Cyder, Purre or Cyderkin.*

If your Apples be pulpy or mellow, they will yield their juice with difficulty, unless Water be added, but you may press them easily at first, and extract a small quantity of the richest juice, and then add of Water boiled one hour, but cold again, to the remaining Pulp, which after 48 hours standing will yield you so rich a Liquor, that shall exceed most Cyders drawn from newly ripened Fruit.

To some sorts of Fruit that are of themselves acid, crude, or of a thin juice, dilution is very improper; but if the Water be boil'd and let stand till it be cold,

it

it will be the better, that abating much of it's crudity.

Water mixt with the Fruit when Ground, and permitted to ſtand 48 hours, incorporateth abundantly better, than if added in the Veſſel; and if mixt in the Veſſel, better than if added in the Glaſs.

By the additon of Water no other advantage can be expected than the encreaſe of the Liquor, as more ſmall Beer than ſtrong is uſually made of the ſame quantity of Malt. For the ordinary expence in houſe keeping, you may make Cyderkin or Purre after you have Preſſed out your Cyder, by putting the Murc, Muſt, or Pouz up into a large Vat, and add thereto what quantity you think convenient of boyld Water (being firſt cold again:) if about half that quantity as was of the Cyder that was Preſſed from it, it will be good; if as much as the Cyder, then but ſmall: Let this Water ſtand upon it about 48 hours, and then Preſs it well.

That which comes from the Preſs, Tun up immediately, and ſtop it up, and you may drink it in a few days.

This being the moſt part Water, will clarify of it ſelf, and ſupplies the place of ſmall Beer in a Family, and to many much more acceptable.

You may amend it by the addition of the Settling, Sediment, or Lee of your Cyder you laſt purified; by putting it upon the

Pulp

Pulp before preſſure, or by adding ſome overplus of Cyder, that your other Veſſels will not hold, or by Grinding ſome fallen or refuſe Apples, that were not fit to be added to your Cyder, and preſſing it with this.

This Cyderkin or Purre may be made to keep long, in caſe you boil it after preſſure, with ſuch a proportion of dry Hops (but not Green Hops) as you uſually add to your Beer that you intend to keep for the ſame time, and it will thus be very well preſerved, but then you need not boil your Water before the adding it to your Murc, Muſt, or Pouz.

§. 12. If any one ſhall deſire a ſmall quantity of Cyder extraordinary for it's goodneſs, let him take the Liquor that comes firſt from the Muſt without much Preſſing, and diſpoſe of what comes afterwards by it ſelf, or mix it with the juice of another Grinding. *How to make choice Cyder.*

Some have been ſo curious, as to pick off the Trees the ripeſt Apples, and eſpecially thoſe that have had moſt of the Sun, and to make uſe of them by themſelvs for choice and rich Cyder.

§. 13. Perry is made the very ſame way as Cyder, only obſerve not to let your Pears be very ripe before you Grind them; for if they ſhould be too mellow when *How to make Perry*

Ground, they are ſo Pulpy, that they will not eaſily part with their juice: and it's adviſed by ſome to mix Crabs at Grinding among the Pears, eſpecially of weakeſt juice, and it's affirm'd they'l very much mend and improve the Perry: The proportion muſt be with diſcretion according as the ſweetneſs of the Pear requires.

Of mixtures with Cyder

§. 14. The beſt addition that can be made to Cyder is that of the Lees of Malaga Sack, or Canary new and ſweet; about a Gallon to a Hogſhead; this is a great improver and purifier of Cyder.

The juice of Rasberries preſerved, or the Wine thereof, gives an excellent tincture to this Liquor, and makes it very pleaſant, if the Cyder be not too new, or too luſcious. When you Bottle Cyder, put into every Bottle a little Conſerve of Rasberries, and it gives it a curious taſt.

Elder-berries are of great eſteem to ting Cyder with, which may be thus done, Take a Gallon or more of clean pickt and full ripe Elder-berries; put them in a Pot and cover it with a Paper, ſet them in this Pot in an Oven immediatly after you have drawn forth your Houſhold Bread, let them ſtand till the Oven be cold, if they be not enough, heat the Oven again, but not too hot, and ſet them in it again; when taken out, ſtrain out the juice, which will be thin

thin and clear, and Bottle it up with Loaf Sugar for use. Two or three spoonfuls of this mixed in a quart Bottle of Cyder at the Bottling makes it of a fine Red colour, pleasant to the Taste, and endows it with all the Medicinal vertues of the Elder-berry.

In like manner you may use Mulberries and Blackberries, which will give cooling tinctures to Cyder.

If your Oven be not very hot, set the Elder-berries, *&c.* in with the Bread.

§. 15. Take Twelve quarts of full ripe and clean pickt Currans, put them into a Stone Mortar, and there bruise them with a wooden Pestel, or els rub them in pieces with your hands, then put them into a well Glazed Earthen Pot, and thereunto put of boiling hot Water that hath been boiled a full hour, Twelve quarts; stir them about very well with a wooden Slice in the Water, and let them stand 24 hours to infuse, then drein them through a hair Sieve, and put the Liquor into a small Barrel well seasoned, and sweet, or into an Earthen Pot close covered, and add to each Gallon of Liquor Two pounds of bruised Loaf Sugar, and let the Liquor stand in a cool Cellar, six or seven weeks well stopt, only sometimes, if in a Barrel, give it a little vent, else it will break the Vessel; Then take off the Scum or Cream that is on the top of the *To make Curran Wines, &c.*

Liquor, and let the Liquor run through a fine Strayner, and Bottle it, putting into every Bottle a little ſpoonful of beaten brown Sugar Candy, and in ſix weeks it will be ready for drinking: Let the Bottles be ſtrong ones, elſe it will break them, only you may prevent that, by opening your Bottles and let them ſtand a whole day uncork't, if it either cauſe the Corks to fly, or break any of your Bottles, or put the Corks looſly in at the firſt, and then knock them in cloſe after ſome time.

Thus you may make excellent and delicate Wines of Currans, Black-berries, Rasberries, Goosberries, only let not your Goosberries be too ripe, but all the reſt full ripe.

If you deſire the Wine to be ſtronger than this, put but a Pint and half, or a Pint of boyling Water to each Quart of the Fruit, and you may make a ſecond and ſmaller ſort of Wine, of the Muſt, Murc or Pouz of your Fruit.

Another way of making the ſaid Wines of Currans &c. but not ſo good as the former except for Cherrie-Wine.

§. 16. For every pound of clean pick't, and ripe Fruit ſtampt, and the Liquor or juice preſt out, take a Quart of Spring Water, and a quarter of a pound of fine White Sugar, boil the Water and Sugar, Scum it and put in the juice of your Fruit, then let it boil up again, take it off the Fire, run it through a hair Sieve, and when it's throughly cold, put it in a ſtean Pot or Veſſel cloſe covered,

covered, and placed 15 days in a cool Cellar, then draw it out into Bottles, put into each Bottle the quantity of a Nutmeg of Loaf Sugar, it will not be fit to drink under a quarter of a years time, and will keep good a year.

Cherry Wine.

According to this last direction, you may also make Cherry Wine, or to make it stronger use no more Water than juice of the Cherries. When you bottle any of these Wines you may put the Corks loosely in for some time before you stop them close.

Cherry Brandy.

§. 17. Cherry Brandy is usually made with Black Cherries, by filling a Bottle half full of Cherries, and putting in the Brandy till the Bottle is near full; shake it sometimes, within a Month it will be ready to drink, but keep it in a cool Cellar.

Goosberry Brandy.

§. 18. If you put the like quantity of Goosberries instead of Cherries, it will make the Brandy very delicious.

How to make Metheglin or Hydromel.

§. 19. Take Live Honey (which is that Honey that naturally runs from the Combs without pressure, by laying the Combs on a Sieve, and placing a Vessel under it to receive the Honey) and add what quantity of Honey you please, to clear Spring Water, (about the proportion of a Pint of Honey to a quart of Water) then boil

this Liquor in a Braſs, or rather Copper Veſſel, for about an hour or more, then let it cool, the next morning you may Barrel it up, adding to the proportion of 15 Gallons, an Ounce of Ginger, half an Ounce of Cynnamon, of Cloves and Mace of each an Ounce, all groſly beaten, for if you beat them fine, they will always float in your Methegglin, and make it foul, and if you put them in whilſt it is hot, the Spices will loſe their Spirits: You may alſo, if you pleaſe, add a ſpoonful of Yeſt, or Ale Barm, at the Bung-hole to encreaſe it's Fermentation, but let it not ſtand too cold at the firſt, that being a principal impediment to it's Fermentation; As ſoon as it hath done working, ſtop it cloſe, and let it ſtand for a Month; then draw it into Bottles, which ſet it in a cool Cellar, or Refrigeratory of Spring Water, and it will become a moſt pleaſant Vinous Drink, dayly loſing it's luſcious taſt; and the longer it is kept the better it will be.

You may make it more or leſs ſtrong as you pleaſe, by adding of more Honey, or more Water.

By long Boyling it is made more pleaſant, and more durable.

All Green Herbs are apt to make Metheglin flat or dead, therefore uſe your Herbs after they are well dryed in the ſhade: Cloves are apt to make it high coloured; and the Scumming of it in the boiling

ing is not advantagious but injurious to it, because the Scum being of the nature of Yest or Barm, helps to ferment and purify.

§. 20. Take 24 Quarts of clear Spring Water, that hath been boyled with Liquorish, Rosemary, Bays, Fennel and Pursly Roots, of each half a handful, till it tast strong of them, which will be in half an hours boyling; put the Water through a Sieve, and add full eight Pints of Honey to it; When it is dissolved set it over the Fire in a Brass, or rather Copper Pan; let it boyl a quarter of an hour after it would boyl all over, in which time continue to Scum it clean; put it then into Earthen Pans, and when it is cold as Wort is when it is put together, pour off the clear into a Pale, and put to it about one Pint and half of Ale Barm, or Yest, which must be poured in by degrees as it works; when it hath stood all together a day and a night, Tun it up together in an Earthen Pot that hath a Spigot, and hang in it a bag with Nutmeg, Ginger, and Cinnamon, quartered or sliced; if the weather be cold, cover it; it must stand till the Barm begins to shrink from the sides, which will be in eight or ten days; then Bottle it, and let it stand all night, with Corks put loosly in; the next day give them Air, and knock them down; if the Weather be hot, put them in the Cellar, *How to make small Meath.*

lar, otherwiſe in ſome warmer place to ripen, it will be ready to drink in a Month.

You may this way make Metheglin by adding a grater quantity of Honey; and the ſame is highly commended.

Of Birch Wine.

§. 21. You may eaſily extract great quantities of the juice of the Birch-tree by cutting off the ends of the Boughs of the Tree, and hanging Bottles thereon, leaving the ends of the Boughs fit to go into the Bottles mouths, and the Liquor will therein diſtil. Or with more eaſe cut a Swan or Gooſe quill at one end, in the ſhape of an Apple ſcoop or Apple Scraper, and with a Gymblet make a hole in the body of the Birch-tree, and put in this Quill with the mouth upwards, and ſet a Pot under the other end of the Quill, and great quantities of the juice or Liquor will fall thorough the Quill into the Pot; but that Liquor which comes from the Branches, being better and longer digeſted, is better than that which comes from the Trunk of the Tree. And this is only to be done from the end of *February*, to the end of *March*, of this Liquor or juice of the Birch is made a very wholſome and medicinable Wine in this manner, *viz.*

To every Gallon of the Liquor add a pound of refined Sugar, and boil it about a quarter or half an hour, then ſet it to cool, and add a very little Yeaſt to it, and

it

it will Ferment and thereby purge it ſelf from that little droſs, the Liquor and Sugar can yield; then put it in a Barrel, and add therero a ſmall proportion of Cynnamon and Mace bruiſed, about half an Ounce of both to ten Gallons; then ſtop it very cloſe, and about a Month after Bottle it, and in a few days you'l have a moſt delicate Wine of a Flavour like unto Rheniſh: It's Spirits are ſo Volatile that they are apt to break the Bottles, unleſs placed in a Refrigeratory, and when poured out, it gives a White head in the Glaſs. This Liquor is not of long duration unleſs preſerved very cool. Inſtead of every pound of Sugar, if you add a quart of Live Honey and boil it as before, and adding Spice, and Fermenting it as you ſhould do Metheglin, it makes an admired Drink, both pleaſant and medicinable.

Ale Brewed of the juice or Sap of the Birch-tree is eſteemed very wholeſome.

Birch Wine, as alſo Birch Ale, are excellent remedies againſt the Stone; *Van Helmont* being the firſt that diſcoved it's vertue, mightily commends it.

If when you make your Metheglin you uſe the juice of the Birch inſtead of Water, and when Barrell'd, you for every Gallon of the Liquor hang four Ounces of Daucus Seed, ſomething bruiſed in a bag in the Liquor,

quor, it's said to be very good for the Stone.

Profits of Planting. §. 22. The advantage in Planting Trees may thus easily be computed, *viz.* An Acre of Ground (accounting eight yards to the Pole or Perch) will take about 160 Trees, which may be set at distance enough; which Trees if bought, and not raised by your self, may be had for about six pounds, when set and staked; the yearly profit of the herbage or Tillage of this Acre of Ground for the first seven years after Planting, may well be employed in digging about the Roots of the Trees, carrying off convenient and proper Soil, or Compost for them, mantaining the Fences, paying duties, *&c.* At the seven years end, these 160 Trees, one Tree with another, will yield a Bushel (accounting 32 Quarts to the Bushel) of Apples each Tree, altho some of them may have perished, and others as yet but young raised in their places, yet may some of these Trees at seven years growth, bear two or three Bushels, and some a Bushel and an half, which may in the whole amount to one hundred and sixty Bushels, which at six pence *per* Bushel is four Pound; the Herbage then will be worth at least thirty Shillings *per Annum*, altho the Ground were worth less before it was Planted; the eighth or ninth year your Trees may one with another, and one year with another yield

yield you at leaſt two or three Buſhels on a Tree, and ſometimes more, which at ſo low a rate, your ſix Pound firſt expended, and the forbearance of the profit of your Land, and intereſt of your Money for ſeven years, will bring you at leaſt eight Pounds *per Annum*, the Herbage being ſtill allowed, for the maintenance of your Plantation; but if a good Fruit year happen, and your 160 Trees yield you ſix or ſeven hundred Buſhels, and thoſe worth twelve pence, or eight pence the Buſhel, it will in one year more then retaliate all your paſt labour, charge and loſs, and your ſelf will be furniſhed with an excellent Orchard, very ſerviceable to your Family both in baking, and making ſtrong, and ſmall Cyder for your Table, and thereby ſaving great quantities of Malt.

A Buſhel and half, or 48 Quarts of Apples will make 18, 20, 22, or ſomtimes 24. Quarts of Cyder, according to the goodneſs of your Fruit for that purpoſe, and there will alſo be ſo much Cyderkin made of the Pourz, or Murc, as will be better worth than the charge of Grinding and Preſſing, *&c.* Twenty Buſhels commonly make a Hogſhead of Cyder.

They that are deſirous to underſtand the ordering of a Garden, either for the Kitchin, or Flowers, let them peruſe a Book call'd, *The Engliſh Gardiner*, writ by *Leonard*

nard Meagar, and therein they'l find both ample and true inſtructions.

Altho there is no Liquor, Drink, or Diet alike pleaſant to all; ſome preferring Dull Coffee before any other, ſome ſtale Beer, others fat Ale, or Mum; one Claret, another Sack; yet our Engliſh know no other Drink ſo generally palatable as Cyder, becauſe it may be made ſuit with any humourous Drinker. It's made Luſcious by the addition of a good quantity of ſweet Apples at the Grinding; pleaſant, being made with Pippins or Gennet-Moyls; Racy, Poignant, Oyly, Spicy, and Rich, with the Red-ſtreak, and ſeveral other ſorts of Fruits, even as the Operator pleaſes. And it ſatisfies thirſt, if not too ſtale, more than any other uſual Drink whatſoever; and in ſuch years as Corn is dear, the beſt Cyder may be made at a far eaſier rate than ordinary Ale. The conſiderations whereof adds much to the exhilerating virtue of this Drink.

Next unto Cyder, Perry claims the precedency, eſpecially if made of the beſt juicy Pears celebrated for that purpoſe, as the Bosbery-Pear, Bareland-Pear, the Red and White Horſe-Pear, or many ſorts of wild and choak Pears, but above all the Turgovian-Pear.

Wines or Drinks made of Currans, Goosberries, Rasberries, Blackberries, Cherries, or Plums, prepared and made as is before taught, may be more acceptable

to

to our Palats, healthy, pleasant, and profitable than those exotick Wines many are so fond of and Dote on.

And in this very year 1682, I know Wine made of the White Dutch Curran, according to the direction of the 15 *Sect.* of this *Chap.* (only there was but a Pint of Water added to each Quart of the Fruit) far superiour to the best French White Whine could be bought in our Country, if several judicious Palats were not mistaken.

℞ Of *Diapalmæ*, and of *Deminio Compositi.* of each two Ounces, and of Hogs-grease rendred (no Salt being in it) half a Pound, melt them together, keeping continual stirring, and Liquor the Leather and Soles therewith, before the Boots or Shoos are shaped out, and afterwards when occasion is, the Liquor must be warm when used.

How to Liquor Boots or Shoos to walk in the Fields and Orchards to keep out wet.

An

An Abridgment of the Statutes of 43, *Eliz.* Cap. 7. and 15, *Car.* 2. Cap. 2.

Laws against breaking Orchards and stealing Trees and Wood, &c.

IF any shall be Convicted by his own Confession, or by the Testimony of one Witness upon Oath, before one Justice of Peace, or Head Officer, to have unlawfully cut and taken away, any Grain growing, robbed any Orchard or Garden, digged up or taken away any Fruit Trees, broken any Hedges, Pales, or other Fences, cut or spoiled any Woods or under Woods, standing and growing, or the like, or to have been accessary thereunto, shall for the first offence pay unto the party grieved, such damages and within such time, as by the said Justice, or head Officer shall be appointed: And in case the pary offending shall not by the said Justice or Officer, be thought able to discharge the sade damages, or shall not discharge them according to the said Order, then shall the

the said Offender be by them, or either of them (respectively) committed to the Constable, or other Officer of the place, where the Offence was committed, or the party apprehended, to be Whipped, and for every other offence committed afterwards, and proved as aforesaid, the party offending shall receive the like punishment of Whipping.

The Constable, or other inferior Officer that herein refuseth or neglecteth to do his duty, shall by any such Justice of Peace or Head Officer be committed to Prison without Bail, till he Whip, or cause to be Whipped the party offending, as is above limited.

No Justice of Peace shall execute this Statute for Offences done to himself, unless he be Associated with one or more Justices of Peace, whom the Offence doth not concern. Vid. *the Statute of* 43. Eliz. Cap. 7. *at large.*

Statute, 15. Car. 2. Cap. 2. *reciting the Statute of* 43. Eliz. Cap. 7. *doth not sufficiently prevent, nor punish the Cutting and Spoiling of Woods, Enacts, that ever Constable, Headborough,*

borough, and other perſon in every County, City, or other place, where they ſhall be Officers or Inhabitants, ſhall and may Apprehend, or cauſe to be Apprehended, every perſon they ſhall ſuſpect having, carrying, or conveying, any burden or Bundle of Wood, Poles, young Trees, Bark, Baſt of Trees, Gates, Stiles, Poſts, Pales, Rails, or Hedg-wood, Broom, or Furze.

And by Warrant under the hand and Seal of any one Juſtice of the Peace, directed to any Officer, ſuch Officer may enter into, and ſearch the Houſes, Yards, Gardens, and other places belonging to the Houſe or Houſes, of every perſon or perſons they ſhall ſuſpect to have any kind of ſuch Wood, or other the ſaid Trees, &c. and where they ſhall find any ſuch, to apprehend every perſon ſuſpected for Cutting and taking the ſame, and as well thoſe apprehended carrying any kind of Wood or other Trees and premiſſes; as thoſe in whoſe Houſes or other places belonging to them, any of the ſame ſhall be found to carry before any one Juſtice of the Peace of the ſame County: and ſuch perſons ſuſpected do not give a good accompt how they came by the

ſame

same by the consent of the owner, such as shall satisfy the said Justice, or within some convenient time to be set by the said Justice, produce the party of whom they bought the said Wood, or some credible witness upon Oath, to prove such sale, which Oath the said Justice may Adminster, then such persons so suspected, and not giving such good accompt, nor producing such witness, shall be adjudged as convicted, for cutting and spoiling of Woods, Underwoods, Poles, Trees, Gates, Stiles, Posts, Pales, Rails, Hedg-wood, Broom, or Furze, within the meaning of the Statute of Queen Elizabeth, *and lyable to the Punishments therein, and of this Act appointed.*

Every person so Convicted, shall for the first offence, give the owner satisfaction for his damages, within such time as the Justice shall appoint, and over and above, pay down to the Overseers of the Poor of the Parish where such offence is, such summ of Money (not exceeding ten shillings) as the Justice shall think meet, in default of either of which payments, the said Justice may commit such offender

to the House of Correction for such time (not exceeding one Month) as he shall think fit, or to be Whipt by the Constable or other Officer, as in his judgment shall seem expedient.

And If such person shall again commit the said offence, and be thereof Convicted as before, that then the persons offending the second time, and Convicted, shall be sent to the House of Correction for one Month, and there be kept to hard labour, and for the third offence, Convicted as before, shall be judged and deemed as incorrigible Rogues.

Provided also whoever shall buy any Burdens, or any the premisses mentioned in this Bill suspected to be Stolen, or unlawfully come by, the Justices, Mayors, or chief Officers, or any one of them within their respective jurisdictions, upon complaint may examine the matter upon Oath, and if they find the same was bought of any suspected to have Stolen, or unlawfully come by the same, then any one of the said Justices or chief Officers, shall and may award the party that bought the same, to pay treble the value

value thereof to the party from whom the ſame was Stolen or unlawfully taken, and in default of preſent payment, to Iſſue out their reſpective Warrants to levy the ſame by diſtreſs, and Sale of the Offenders Goods, rendring the overplus to the party, and in default of ſuch diſtreſs to commit the party to the Goal, at his own charge, there to remain one Month without Bail.

Provided no perſon be queſtioned for any offence within this Act, unleſs within ſix weekes after the Offence committed.

CHAP. XXX.

Brief Monthly Memorials for the Planter.

JANUARY.

Dig, Trench, and Dung Ground, and make it ready for the Spring; prepare Soil, dig Borders; uncover as yet the Roots of old unthriving, or over-hasty Blooming Trees; Plant Quickſets, tranſplant Fruit-trees, if not finiſhed; ſet Vines, and Prune the old; Prune eſpecially the Branches of old Planted Fruit-trees, about the decreaſe of the Moon; but Prune not the newly Planted till the Sap begin to ſtir. Cleanſe Trees from Moſs, the Weather moiſt. Nail and trim the Wall-fruit-trees, and Eſpalirs. Gather towards the end of the Month Cyons for Grafts of Cherries, Plums, and Pears, before they begin to ſprout and any ſpeck of White appears on the Buds, if the Weather be open. In over-wet or hard Weather cleanſe, mend, ſharpen and prepare all your Grafting and Garden Tools: Deſtroy Vermin in your Seminary

Seminary of Kernels and Stones for Stocks.

FEBRUARY.

CONtinue yet to Prune Fruit-trees, and bind, Plaiſh, Nail, and dreſs the moſt delicate Wall-fruit, if not finiſhed before, but be exceeding careful of injuring the ſwelling Buds, and Bearers; cut and lay Quick-ſets, trim up the Hedges and eſpaliers; Plant Vines as yet and Hops; ſet Kernels, and Stones of all ſorts. Sow and ſet Beans, Peas, Radiſh, Parſnips, Carrots, Onions, Garlick. Now is the ſeaſon for circumpoſition by Tubs or Baſkets of Earth, and laying of Branches to take Root; rub Moſs from your Trees after a ſoaking Rain, and ſcrape and cleanſe them of Cankers, draining away the Wet (if need require) from the too much moiſtened Roots. Mold and Earth up the Roots of ſuch Fruit-trees as were bared. Pull off the Webs of Caterpillars from the Tops and Twigs of Trees, and burn them. Gather Worms in the Evening after Rain. Plant Cabbage Plants, Colliflowers, Parſly, Spinage and other hardy Pot-herbs. Graft Cherries, Plums, and Pears, and towards the end of the Month, Apples if a forward Spring. Get Cyons for Apple-grafts. You may yet tranſplant Trees, tho it had been better done in *October*, or *November*. Slit almoſt

through the Bark, your Bark-bound and Canker'd Trees. Plant Potatos, but not amongſt your Fruit-trees.

MARCH.

DUnging is yet ſeaſonable, and you may tranſplant what Trees are yet left, tho it be dangerous and full late enough, unleſs in very backward, or moiſt places. You may Graft Apples all this Month, and in the begining of it Plums, Cherries, and Pears; you may as yet cut Quickſets, and cover ſuch Tree-roots as were bared in Autumn. Prune laſt years Grafts, and cut off the heads of your Budded Stocks. Now is beſt time for raiſing on Hot Beds, Melons, Cucumbers, Gourds. Slip and ſet Sage, Roſemary, Lavender, Thyme, *&c.* Sow in the beginning Endive, Succory, Leeks, Radiſh, Beets, Chard-beet, Scorzonera, Parſnips, Skerrets, Parſley, Sorrel, Bugloſs, Borrage, Chervil, Sellery, Smallage, Aliſanders, *&c.* Sow alſo Lettuce, Onions, Garlick, Orach, Purſlane, Turneps, to have early, Beans, and Peas towards the full Moon, Carrots, Cabbages, Creſſes, Fennel, Majoran, Dill, Scurvy-graſs. Set Cabbage-plants, and Colliflowers. Tranſplant any ſort of Pot or Medicinal Herbs; Mid-march dreſs up and ſtring your Strawberry Beds. Uncover Aſparagus, and Tranſplant Aſparagus-roots to make new Beds. This is the prime

Month

Month for Botling Cyder, and if you put in about half a ſpoonful of Spirit of Clary, it will make the Liquor ſo perfectly to reſemble the very beſt Canary, that few good and exerciſed Palats will be able to diſtinguiſh it. Set Potatos, but not amongſt your Fruit-trees; Sets them thus, Plow or Dig Ground into Buts or Borders about ſix Foot broad, but leave two Foot intervals; then Harrow or Rake it well, then ſpread Rotten Dung thereon, on the top whereof lay Potato Sets, then Shovel up the Earth in the intervals, and cover the Sets two or three Inches thick. Moſt ſorts of Sallet, Pot, and ſweet Herbs may be ſown from the firſt of *March*, to the end of *July*, and moſt ſorts of ſetting Herbs may be removed, ſlipt and parted the ſame time.

APRIL.

PLant Artichock Slips, ſet great Beans, and ſow Carrots; if the Spring be not forward you may yet Graft Apples in the beginning of the Month. Gather Worms, Snails, after evening ſhowers and after all the Summer Rains: and deſtroy Caterpillare Webs, and ſmoak Caterpillars and black Flies from your Trees. Mow Carpet Walks. Weed your Currans, Gooſberries, *&c.* From the beginning to the middle ſet Potatos, but not amongſt Fruit-trees. You may yet ſlip Lavender, Thyme, Roſemary, *&c.* Towards the middle begin

to Plant forth your Melons, Cucumbers and ſo to the later end, your Ridges well prepared. Sow ſweet Majoran, Hyſſop, Baſil, Winter Savory, Scurvy-graſs, Lettuce, Purſlane, Coliflowers, Radiſh, Thyme, and all fine and tender Seeds. Clip Shrubs after ſhowers.

MAY.

CONtinue your Weeding before they run to Seeds, and with Sheers top your Currans, and Goosberries. Sow ſweet Majoran, Baſil, Thyme, hot and Aromatick Herbs and plants which are moſt tender. Sow Purſlane to have young, Lettuce, large ſided Cabbage, Painted Beans. Look to your Melons, and towards the end of the Month forbear any longer to cover them.

JUNE.

SOw Lettuce, Chervil, Radiſh, *&c.* to have young and tender Salleting, Spinage. Cleanſe Vines of exuberant Branches cropping not cutting, and ſtopping the joint immediately before they Bloſſom, and ſome of the under Branches that bear no Fruit, eſpecially in young Vineyards when they firſt begin to bear, and thence forwards. Gather Herbs in the full to keep dry, they keep and retain their Virtue and ſweet ſmell better dry'd in the Sun, than ſhade, whatever ſome pretend.

About

About a fortnight before and as much after Midſummer are the chief and beſt times to Inoculate Peaches, Apricocks, Cherries, Plums, Pears, Nectarins, and Apples. Water lately Planted Trees, and put moiſt and half rotten Fearn, Weeds, and Vegatables about the foot of their Stems. Continue Weeding, and gather Snails after Rain. Unbind thoſe Grafts you bound. About 14 days before or after Midſummer, ſow Turneps upon Ground prepared as for Barley; after Midſummer makes the better Turnep. Three Pints of Seed will ſow an Acre, accounting ſeven yards to the Pole; your Seed is to be mixed with dry Sand thus, Three ſpoonfuls of Seed with a peck of Sand, then ſow; if immediately after ſowing a ſhower of Rain and hot Sun-gleams happen, it's ſpoil'd.

JULY.

SOw Lettuce, Radiſh, Spinage, *&c.* for late and tender Salletting. Sow later Peas to be ripe ſix weeks after Michaelmas. Water young Planted Trees and Layers. Prune now Apricocks, and Peaches, ſaving as many of the young likelieſt Shoots as are well placed, for the now bearers commonly periſh the new ones ſucceeding: Cut cloſe and even. Let ſuch Pot-herbs run to Seed as you would ſave. About the eighth Inoculate ſuch Fruits as in *June* are directed, and ſow Turneps alſo

alſo then and towards the full Moon. Towards the later end viſit your Vineyards again, and ſtop the exuberant Shoots above the Fruit, but ſo as not to expoſe them to the Sun. Search under Wall-tree-leaves for Snails, they ſtick commonly about the Fruit, pull not off what is bitten, for then the'l begin afreſh. Now (in the drieſt ſeaſon) with Brine, Pot Aſhes and Water, or a decoction of Tobacco refuſe, Water your Gravel Walks, *&c.* to deſtroy both Worms, and Weeds, of which it will cure them for ſome years. Continue Weeding; gather Currans to make Wine of. Make ready your Cyder Mill and Preſs, *&c.*

AUGUST.

INoculate now early if you began not before. Prune off yet ſuperfluous Branches and Shoots of this ſecond Spring, but leave ſome Leaves to ſcreen the Fruit from the Sun, furniſhing and nailing what you will ſpare to cover the defects of your Walls. Pull up the Suckers. Sow Radiſhes, tender Cabbages, Colleflowers for Winter Plants, Corn-ſallet, Marigold, Lettuce, Carrots, Parſnips, Turnips, Spinage, Onions, alſo curl'd Endive, Angelica, Scurvy-graſs, *&c.* pull up ripe Onions and Garlick, *&c.* Towards the end ſow Purſlan, Chard, Beet, Chervil, *&c.* Tranſplant ſuch Lettuce as you'l have abide all Winter. Gather your Olitory Seeds, and

and clip and cut all ſuch Herbs and Plants within one handful of the Ground. Before the full, unbind and releaſe the Buds you Inoculated. Gather your Windfal Apples from day to day, if the Weather be dry. Make Summer Perry and Cyder.

SEPTEMBER.

GAther now (if ripe) your Winter-fruit as Plums, Pears, Apples, *&c.* to prevent their falling by great Winds, alſo in dry Weather gather Wind-falls from day to day. Sow Lettuce, Radiſh, Spinage, Parſnips, Skerrets, Colle-flowers, Cabbages, Onions, Scurvy-graſs, Aniſeeds, and Winter Herbs. Now you may Tranſplant moſt ſort of Eſculent and Phyſical Plants, Artichocks, and Aſparagus Roots. Sow Winter Herbs and Roots, and Plant Strawberries out of the Woods: Towards the end Earth up your Winter Plants, and Sallet Herbs, and Plant forth your Colle-flowers, and Cabbages ſown in *Auguſt*. With a pair of Sheers top Currans, and Goosberries, dig about, Manure and Mold up their Roots towards the end. Make Perry and Cyder.

OCTOBER.

TRench, Dig, and Manure Ground for Orchading, and Kitchin Garden to lye for a Winter Mellowing. Plant and ſet Fruit-Trees of all ſorts, Standard, Mural, or Shrubs, which loſe their Leaf, and that as ſoon as it falls. Chooſe no Tree for the Wall above two years Grafting at moſt. Now is the time for laying bare old unthriving, or over-haſty Blooming Trees. The Moon decreaſing, gather the remaining Winter-fruit in dry Weather, lay them up clean, leſt they taint; Plant and Plaſh Quickſets. Sow all Stoney and hard Kernels and Seeds, ſuch as Cherry, Pear, Plum, Peach, Almond-ſtones, *&c.* Alſo all ſorts of Nuts, Haws, Aſhen, Sycamore, and Mapple-keys; Acorns, Beech-maſt, Apple, Pear, and Crab-Kernel for Stocks; or you may defer it till towards the later end of the next Month. Keep your Stones and Nuts in Sand till ſet. Yet ſow Lettuce. Make Winter Cyder, and Perry. Sow as in *September.* Sweep and cleanſe your Walks of Autumnal fallen Leaves.

NOVEMBER.

CArry Compoſt out of your Melon Ground, or turn and mingle it with the Earth, and lay it in Ridges ready for the Spring; Trench and fit Ground for Artichocks,

Artichocks, Mold them up, and cover them in the beginning of Froſts with Horſe-dung. Continue ſetting and Tranſplanting Trees; loſe no time, hard Froſts come on a pace; yet you may lay bare old Trees. Plant young Trees, Standard, or Mural. Furniſh your Nurſery with all ſorts of Stocks to Graft in. Sow and ſet early Beans, and Peas till Mid-*March*. Now lay up in your Cellars for Seed to be Tranſplanted at Spring, Carrots, Parſnips, Cabages, Colliflowers, *&c.* In a dry day gather your laſt Orchard Fruits. Take up your Potatos for Winter ſpending, there will enough remain for Stocks, tho never ſo exactly gatherd, ſave the ſmall ones for Sets. Cut off the tops of Aſparagus and cover them with long Dung, or make Beds to Plant in Spring. Set yet all ſorts of Kernels and Stones to raiſe Stocks for Nurſery. In Froſts Cover the Windows of your Fruit Room, and the Fruits, with Mats of Straw, *&c.*

Now order Turneps for Seed thus, *viz.* about the Tenth get up ſome of your largeſt and beſt Turneps, (20, will yield about a Quart of Seed) but waſh them not, then cut off the top of the Buſh or Stalk, leaving five or ſix Inches to grow to the Turnep, lay theſe about 14 days in a cool Room, then prepare a convenient Plot of Ground by Diging and Trenching good ſtore of rotten Muck, then ſet Turneps half

half a yard distant from each other, and Mould up the Earth three Inches high on the Stalk about each; in *April*, place small Hasel Rails about them to keep them up, and thy'l be Seed in *June*, if you can preserve them from Birds, which is done by placing a live Catling tied near it daily fed with Milk, and the old ones resorting to it. If you set not these Turneps till *January*, the Seed produces a Watery, but larger Turnep. Take up Carrots, Parsnips, *&c.* to be kept in Cellars in Sand for spending.

DECEMBER.

PRune and Nail Wall-fruit and Standard-trees, and Plant Vines, *&c.* Also Stocks for Grafting. Sow and set all sorts of Kernels, Seeds, and Stones; Trench Ground and Dung it, to be ready for Bordures or Planting of Fruit-trees. Turn and refresh your Autumnal Fruits, lest they taint, and open the Windows where they lye in a clear and serene day. Preserve your Fruit from Frosts.

Let Planters note that the Wood of the Pear-tree, Plum-tree, Black-cherry-tree, Walnut-tree, and Chesnut-tree, are excellent for Stools, Chairs, Tables, Cabinets, and many other Works for the

Joyner;

Joyner, and Sculptor; and tho the Wood of ſome of them be ſubject to the Worm and putrefaction, that may be both prevented, and cured if not too far gone, by anointing three or four times with Linſeed Oyle; it has been experimented in a Walnut Table, where it deſtroy'd Millions of Worms immediately, and is to be practiſed for Tables, Tubes, Boxes, Mathematical Inſtruments, Bedſteds, Chairs, Rarities, *&c.* Oyl of Walnuts will do the ſame, is ſweeter and a better Verniſh, but above all is commended Oyl of Cedar, or that of Juniper. But the more curious may uſe this great ſecret (diſcover'd by Mr. *Evelin*, *Page*, 70 of his *Sylva*) *viz.* put common Yellow Sulphur into a Cucurbit Glaſs, upon which pour ſo much of the ſtrongeſt *Aqua Fortis*, as may cover it three fingers deep, diſtil this to dryneſs, which is done by two or three Rectifications: Let the Sulphur remaining in the bottom (being of a Blackiſh or ſad Red Colour) be laid on a Marble, or put into a Glaſs where it will eaſily diſſolve into Oyl: With this Anoint either what is infected, or to be preſerved of Tymber, it tinges Wood with no unpleaſant Colour, by no Art to be Waſhed out, and ſuch a preſervation of all manner of Woods, nay of many other

things

things as Ropes, Cables, Fiſhing-nets, Maſts of Ships, *&c.* That it defends them from putrefaction, either in Waters, under, or above the Earth, in the Snow, Ice, Air, Winter or Summer, *&c.*

FINIS.

ADDENDA.

1. TO the end of the first Chapter, should have been added the following, *viz.* And when Stocks are removed out of the Seminary into the Nursery, or elsewhere, be sure to cut off as well the greatest part of the down right Tap, or Heart-root of Stocks, as also the ends of all other Roots, and then to set them as shallow as possible, so as they may be able to take good Rooting.

2. AT the end of the 6th *Sect.* in *Chap.* Second, this should have been added, *viz.* Be sure therefore to let your Stocks for Pears and Apples be well grown before they are Grafted, that they may be able to make strong, and tall Shoots the first year after Grafted; for if Grafted the same year they are removed, or the next year, not one of many makes a good Tree; besides there are several sorts of Fruit-trees, as Pearmains, Winter-queenings, and July-flower-apples, *&c.* that will not make a Tree worth your labour, unless Grafted on a lusty plump Stock; because they naturally

Shoot weak and crooked; ſo divers ſorts of Pears, of which the Wardens are the worſt to make a handſome Tree of.

3. AT the end of the firſt *Sect.* in *Chap.* ſeventh, the following ſhould have been added, *viz.* And indeed all Land proper for Corn, as Wheat, Barley, Rye, Beans, and Peeſe are proper for Fruit-trees: but the moſt improper are extream hot and dry Sands, and on the other ſide grounds very Wet and cold.

4. AT the end of the ſeventh *Chap.* page 86, the following *Sect.* ſhould have been added, *viz.*

§. 23. After your Trees are tranſplanted into Orchards, the greateſt care and charge is to keep them ſafe from being abated, either by Weeds that may grow about them, Suckers that may grow out of them, between the Roots, and ſpreading Boughs, and from all Cattle, Hares, Coneys, and Canker (for which ſome affirm Hogs-dung either mixed with the Earth, or ſome laid on the top about the ſtem to be an excellent remedy) and in caſe where they are digged or Plowed about the Roots, your Trees will thrive much better, and grow twice as faſt.

5. In

ADDENDUM.

5. IN Page 99, at the end of the tenth Sect. the following should have been added, *viz.* Observe in setting Fruit-trees to cut off the greatest part of the down-right Tap, or Heart-root; and also the ends of all the other Roots of the Tree, and let not the top of the uppermost Roots be above two Inches under the Surface, and the bottom of the Roots not more than nine or ten Inches below the Surface of the Earth; and if the Hole the Tree is to be set in, be digged deep, and fill'd up again with good Earth before the Tree is Planted (unless the Earth be very well trod down) the Tree and all will sinck together, and never prosper: therefore in such a case, 'its best to set the Tree so shallow as to raise the Earth six or seven Inches above the Roots about the stem, and to cover the uppermost Roots with good Earth, to prevent that misfortune.

6. AT the end of the third line in Page 163, the following should have been added, *viz.* You may also obtain many excellent Sets of Currans and Goosberries, if in *January*, or beginning of *February*, when the weather is open, you lay down several Limbs and Twiggs of them, flat and close to the Earth, and so keep them down by a hooked stick driven into the Earth, or a Brick stone; then cover every Limb and Twigg so laid down, all along

two Inches thick with good Earth, except the top Branch or Twigg, which muſt lye out and be uncover'd, and by that time the next year, you'l have abundance of well Rooted Plants, fit to tranſplant: take care to keep that part of the uncover'd Stock, which is between the old Root and the Cover'd part, that it run not out in Buds or Branches, for if it do, the Twigs will be rob'd of that nouriſhment which ſhould feed them: Alſo remember to keep them clear of all Graſs and Weeds that may in the leaſt annoy them.

7. AT the end of the 22 *Chap.* Page 167, the following ſhould have been added, *viz.* Peaches and Nectarins are Propagated only by Inoculating, and that on Stocks raiſed either on Peach-ſtones, or Plum-ſtones; But obſerve that Stocks raiſed of Peach-ſtones will be ſooner ready to Inoculate, and the Buds will take very ſure that are Inoculated into them; but they muſt be carefully and tenderly uſed in the removal, and muſt not be expected to make long laſting Trees.

Stocks from Plum-ſtones, and Budded with a Peach will make a more firm and laſting Peach-tree; and ſuch as will bear Fruit well.

There-

Therefore rather raiſe Stocks for Peaches, Nectarins, Apricocks, and Plums from Stones of the Wheat-plum, which is a White Plum ripe in *Auguſt*, (if you can have them) or in want of them from the Stones of the White Pear-plum, which is generally commended and uſed, or of other good White Plum whoſe Tree puts forth large Shoots or Branches.

The Suckers likewiſe from the Roots of the ſaid Wheat Plum make excellent Stocks for Peaches, Nectarins, Apricocks, and Dwarf and Wall Plum-trees.

8. AT the end of the 23 *Chap.* Page 169, the following ſhould have been added, *viz.* Strawberries are increaſed by ſetting the young Roots, which increaſe from the ſtrings which run from the elder Plants, they are to be found in Woods and ſuch like Places, from whence many provide themſelves as well as in Gardens; they are Planted at divers Seaſons, but principally at the Spring and Fall; but many refuſe to ſet them in the Spring, becauſe then ther's a Summers Weeding, and little or no Fruit the firſt year, ſo that moſt Plant about the 24th of *Auguſt*, or Michaelmas, and ſomtimes later, but ſomething ſooner is better; for then they'l have got ſtrength, and bear both

both more, and fairer Fruit. Set them about half a foot aſunder, which is near enough; and if you'l have fair Fruit and your Bed laſt longer without renewing, or new Planting; often cut away the ſtrings that run from the Roots, otherwiſe they'l ſtarve one another: alſo every Winter, not Summer, new mold them, and in dry Weather often Water them, chiefly in Blooming and Fruit time, but do it throughly; where not carefully looked after, a Bed of Strawberries laſts not above two or three years at moſt.

The ordering of great Strawberries differs but little, only to be ſet at a larger diſtance, and the Root kept molded up, and the Stalks for Fruit tied up, and often Watered in dry Weather.

9. AT the end of the 25th *Chap.* page 174. the following ſhould have been added, *viz.* Cherries are propagated by Grafting or Inoculating on Stocks raiſed from Cherry-ſtones, ſet or ſowed, or young wild Chery-trees got out of Woods, *&c.* or Suckers from the common harſh Red Cherry. The wild Stocks make large handſome Standard Trees, but though Grafted with a good kind, do not bear Fruit ſo plentifully as the Suckers of the Red being Grafted do, which Suck-

ADDENDA.

Suckers are fitteſt to Graft, Cherries on for Wall or Dwarf-trees, being of much ſmaller growth than thoſe of the wild kind are. No Fruit-trees proſper under the dripping of Walnut-trees, and Cherry-trees. Note that Suckers of Pears, Cherries, and Wheat Plums, make good Stocks to Graft Pears, Cherries, and Plums on, for Wall-trees, or Dwarf-trees.

ARRATA.

PAge 39. l. 7. r. diſpleaſe. P. 43. l. 31. r. Slicing. P. 64. l. 14 r. Bud or Sprig. P. 64. l. 21. dele a Bud. P. 80. l. 16 r. if it be not Springey. P. 83. l. 10. After Walnut Trees, add Cheſnut Trees or ſome large growing Trees. P. 83. l. 25. for old, r. cold. P. 88. l. 21. for Sap, r. Stop. P. 90. l. ult. r. which P. 95, l. 3. r. Sackcloth. P. 97. l. ult. for Clay, r. Clap. P. 102. at the end of 16 Sect. r. Chap. 12 Sect. 10. 11. 12. P. 118. l. 11. r. bare P. 140. l. 19. r of. P. 144. l. 3. r. one. P. 150. l. 16 r. Tap. P. 159. l. 3. r. fall. P. 176. l. 7. r. Great Muſk. and l. ult. for Meet, r. Meat. P. 178. l. 9 for is, r. are. P. 199. l. 1. after Broom, add, when cold. P. 208. l. 25. r. Quantity. P. 216. l. 30. after Quarts, add, in a Barrel or Hogſhead. P. 228. l. 14. after Currans, add, Elderberries. P. 235. l. 12. for eightpence, r. eighteen pence. P. 164. inſtead of theſe words. viz. about 14 days before Midſummer, r. ſomtimes in the Month of May.